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ERRATA.

Page 24, fourteenth line from bottom, read "run from two to four."
Page 27, nineteenth line from top, for "thin" read "their."
Page 27, second line from bottom, insert "with" before "every."
Page 27, fourth line from bottom, for "mucus" read "mucous."
Page 30, fifth line from top, for "Lunzi" read "Lanzi."
Page 32, seventh line from top, for "tollitus" read "tollitur."
Page 35, seventh line from top, for "diathesis" read "diatheses."
Page 35, twelfth line from top, for "systematic" read "systemic."
Page 108, tenth line from bottom, for "Jarger" read "Jæger."

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ADDRESS OF THE PRESIDENT.

THE RELATIONS OF LEGISLATION TO SANITARY PROTECTION.

BEN. NEWLAND, M. D., BEDFORD, IND.

Modern science has been founded upon Baconian philosophy. Abandoning the method of Aristotle, which descended from the whole to some included part, and which inferred as necessarily true some particular which was contained in a general truth, the theory of Bacon was based upon actual existences, and reasoning from analogy, ascended to conclusions, to be modified by experience, and thereby included a never-ending search after truth.

It was the abandonment of the abstract and metaphysical for the real; it was the relinquishment of the ideal and utopian for the actual and the practical. Wondrous were the changes wrought by this direction given to the course of human thought. It was seen in every department of science. It lifted science from the deep pit and the miry clay into which ignorance and superstition had cast her, and placed her on the eternal rock of an intelligent civilization.

No longer does the astrologer search the heavens to form the horoscope of royal rulers. The fires are extinguished in the furnace of the alchemist, and his long search for the philosopher's stone is ended.

The sorcerer plays no more the role of the physician, dealing in subtle poisons and uttering his incantations at the bedside of the sick and dying. Instead of the false doctrines of idealism, we have the great truths discovered in the long search of centuries after the actual and real. A Kepler ponders on a hundred thousand observations, and establishes the great theory of the attraction of all material bodies. A Priestley digs deep into the mysteries of chemical reaction for truths yet undeveloped, and by the light of science discovers the properties of the greatest of the elements. A Jenner spends a lifetime in the collection of facts, and finally gives to the world a prophylactic which has proven the salvation of the lives of millions.

Science, the great Iconoclast, has been busy especially for the last century, and by the highway of progress lie the broken images of the past. She takes a handful of sand, and with it moulds a lens that reaches out into new myriads of unseen worlds in the starry depths of heaven. Reversing the process, she takes but a pinch of the same material and constructs a microscopic objective, that seems a mere speck in its mounting, and through the quickened vision that this gives we see the moving fluids of the body, the cyclosis of the sap in plants, and the germs of life or of death, which is but the life of other things; and we know not which to wonder most at, the incalculable magnitude on the one hand, or the indescribable smallness on the other.

In no one department has the influence of Baconian philosophy in its modes of thought been more clearly seen than in the science of government. I speak not of the doctrines enunciated by a Ricardo, nor the truths expounded by an Adam Smith in his "Wealth of Nations," but of the great change as shown in the present relations of governments to the governed. The origin of all government was in the exercise of personal prowess. This exercise of the powers of government is peculiar to the savage age of civilization.

As the nations of the earth became semi-civilized, this gave way to the doctrine of transmitted absolute authority. Only in the last few centuries, with the advance of civilization, has the doctrine of limited authority been generally adopted. As the world has gradually progressed from the dark ages of superstition and ignorance, we see one thinker after another pondering over the relations of the nation to the people, and the gradual evolution of the great principle, that a government ought to be so administered as to be productive of the greatest good to the greatest number. With the development of this principle there has been naturally the assumption of new duties on the part of the state in its relations to the people; and gradually the attention of various states has been turned towards legislation for the sanitary welfare of the citizen. Naturally the first movement was towards extending the fostering protection of the state to some university which should have the care of the education of those who had chosen to pursue the medical profession. At this late day we can hardly realize the influence which the establishment of these universities had at the time of their foundation and endowment. The old systems of pseudoscience had been broken up, and the university was valuable rather as a center of thought than as a means of education. Text books, in the present acceptation of the term, there were none, but knowledge was transmitted by one professor in his lectures to another, and the first intellects of the age bent their energies upon the problem of discovering the best methods of alleviating the miseries of the afflicted. We can almost mark by periods the onward steps in the advancement of the practice of medicine.

Year by year new enthusiasts were added to the ranks of science, and the emulation of the struggles in the universities inspired them with the loftiest impulses which could animate the human heart—the ambition to search with patient toil for those truths of science, which should prove of lasting benefit to humanity, and tend to the amelioration of the sufferings of the race. If vicarious suffering be a test of godlike action, where in all history can you find a grander example of immortal heroism than dissecting the body of a man who had died of the plague—writing down the description of the abnormal condition of the cadaver, throwing his notes into vinegar that they might not carry the deadly germs to others, and then calmly lying down to suffer and to die (alone), with no hand extended to alleviate the dying struggles of a man that died for men?

While the establishment, endowment and regulation of universities, illustrate the indirect recognition on the part of governments, of their duties of sanitary protection toward the citizen, yet their direct interest in the sanitary welfare of the people is more clearly shown in the measures which have been taken by enlightened states, looking to the amelioration of the condition of those more specially afflicted. The establishment of asylums for the blind, deaf and dumb, insane, feeble-minded, and even inebriates, has marked the legislation of many of the states of the Union, and the results achieved are such as, a century ago, would have been deemed well nigh miraculous. What tale of "Arabian Nights" involves such marvels as that the blind shall read, the dumb speak, the madman become rational, and even the idiot a thoughtful, sentient being? The power of enlightened legislation—the collected thoughts of millions of freemen in the exercise of the grandest of human rights (the right to vote)—has proven more wondrous in its results than the wand of the enchanter or the lamp of Alladdin. Our own state, during the last session of the legislature, took one step further in advance, by providing a legal means for the study and investigations, which necessarily lie at the base of every portion of a thorough medical education.

While every intelligent and thoughtful man, who was in the slightest degree acquainted with medical science, realized the absolute necessity of dissection as a means of medical education, yet popular prejudice and sentimental horror have long stood in the way of progress in this direction. The profession has been hampered by being, to a great extent, forced to pursue this essential portion of medical education and investigation without the protection, if not under the ban, of the law.

To my mind there can be no clearer proof that the people of this state have advanced to a higher plane of enlightenment, than that a majority of their representatives were sufficiently relieved from antique prejudices, to give to one department of science a legal means of prosecuting those researches which are absolutely necessary to the well being of all the citizens of the state. The course of legislation to which I have hitherto alluded, shows clearly that the tendency of modern legislation is most unequivocally toward recognition by the state, of the fact that it has duties to perform connected with the physical welfare of its citizens, AND THAT THESE DUTIES ARE SECOND ONLY IN IMPORTANCE, TO THOSE INVOLVED IN THE PROTECTION OF THEIR CIVIL RIGHTS.

Although we have been stepping fast and far in the direction of the discharge of these duties, much still remains in our state to be accomplished. The fulfillment of the promise of the past, in the legislation of the future, depends upon the further enlightenment of the people in regard to the possibilities of medical science in its highest and fullest development.

To a great extent you must be the educators of the people in this direction. Tell them the plain facts; tell them in every farm house, in every hamlet, in every village; tell them in every towship, in every city; tell them in your offices, in the ordinary walks of life; tell them in the newspapers and public lectures, at the bedside of the sick, who are suffering for lack of this legislation; and persevere—keep on telling them, until the whole people of the state shall be forced to recognize the fact that one of the highest duties of the state, is the protection, by proper legislation, of the sanitary welfare of its citizens. Impress on the people the principle that it is the duty of the state in this respect to not only claim, but demand of you the highest culture in the medical profession; and I appeal to you, not only as members of the profession, but as men. In the walk of life you have chosen, you have in this matter a solemn and stupendous duty to perform—a duty to humanity, to suffering, sorrowing human nature; a duty as vast as this state, and its growing population.

In the discharge of this high duty of the medical enlightenment of the people, be not inspired by any selfish motive. Let your impulse come not from a desire to elevate the profession alone, not from pride in the science of your choice, not from personal ambition for individual advancement, but let your hearts be moved by a higher and nobler impulse—an impulse broad as humanity itself; work, work on, inspired with deep and silent longings, that your acts may accomplish that good which shall live after you, and prove a blessing to millions yet unborn.

There are two great steps yet to be taken in legislation for the sanitary protection of the people of this state, and in that direction, in my judgment, it is the duty of the medical profession to shape public opinion. The one step is alleviative, the other preventive. The alleviation of the diseases to which humanity is heir, will be more perfect with the progress of the science of medicine, and by the employment of its discoveries, by those skilled therein by study and practice.

I desire briefly to call attention to one evil which is widespread, and which is naturally, to some extent, fostered by those who derive a large profit from its existence. I refer to the preparations known as patent and proprietary medicines.

I am aware that some of them may be so labeled and described that they may be prescribed in general practice, but the large majority are simply palliatives of disease, if not positively injurious, prepared at a very little expense and sold at an enormous profit. Every practitioner can doubtless recall many instances where people have been deceived by these nostrums and cure-alls until their disease had progressed to a stage beyond the power of relief from medical skill.

The last legislature saw fit to make rules in regard to a statement of the ingredients of fertilizers being labeled on every barrel of the article sold within the limits of the state. It also prescribed by statute the test to which coal oils should be subjected to, before they should be permitted to be sold. Would it be asking too much, that these provisions should be extended by law to all patent medicines sold to the people, in order that they might be able to know what ingredients they were to consume in these so-called medicines, and also might be protected from extortion, and not forced to pay a dollar or more for a little water, molasses, essence of wintergreen and tincture of wild cherry bark, and done up with a fancy label, bearing the captivating text, "Dr. Cureall's infallible, sure cure for consumption and all kindred complaints, including scrofula, and diseases of the kidneys"?

There is another evil which emphatically demands repressive legislation. There exists in this state a large class of self-called physicians, and their number is largely on the increase, as they are driven here by the repressive legislation of other states. They are the charlatans of the profession—men who have perhaps had a smattering of medical education at some time, and who, being unable to obtain a living at the regular practice of the profession, display their advertisements in the newspapers and cover the country with their hand-bills. They either profess to be specialists, and advertise a certain cure for some particular ills, or they come as general advertisers, professing to cure, by certain remedies known only to themselves, all the various diseases of the human race. Now, every man well educated in the medical science, knows that there has never yet been discovered a true specific for any particular disease—sulphate of quinine in intermittent and remittent fevers, perhaps, approaches as near thereto as any known article in the entire range of materia medica.

But it is a peculiarity of those afflicted with diseases which must unavoidably end in death, after the lapse of a limited period of time, to have always the hope that some particular remedy will be the means to cure them, and the public are deceived by the promises so glibly made by the smooth-tongued advertising practitioner. Did the obtaining of money under false pretenses apply to promises for future action, as it does representations of actual facts, this robbery of the people could not exist a single year before every one of this class, instead of plundering its citizens, would be doing the state some service, attired in those peculiar garments known as the "zebra suit." It is strange, indeed, that the credulity of any people in this enlightened age of the world should make the existence of this class of individuals a possibility; but it is still more strange that enlightened general assemblies in every state of this Union should not throw around their citizens safeguards which should no longer permit such abuses to be openly practiced, apparently with the full sanction and authority of law.

In fact, other states are taking stringent measures for the protection of their citizens in this regard, and our own state will be forced, in the next few years, to take the same course, or else make Indiana the paradise of the irregular, the home of the charlatan, and a by-word among her sister states.

It is not the medical profession which needs protection from designing or ignorant men who practice medicine and yearly sacrifice the lives, doubtless, of thousands, but it is the citizens of the state who should demand it. I need only mention the fact of their existence, to call to the recollection of every physician present the great number of illiterate and ignorant men in this state who have assumed to play the role of physician—men totally unqualified, and whose avarice is so overweening that, knowing, as they do, that they are deliberately sacrificing the lives and health of hundreds and thousands annually, yet, from pure love of gain, are constantly engaged in the commission of what is practically, legalized murder. I use this expression deliberately, for when a man, totally uneducated, assumes to treat a dangerous disease, of whose etiology, pathology and treatment he is ignorant, he can not but be aware of the fact that he is taking his fee at the risk of the life of the patient. It seems almost beyond the bounds of belief, that in a civilized state so many should be found who would voluntarily adopt this method of gaining a subsistence; but that the intelligent citizens of a great state like Indiana should suffer such men to have the protection of its legislation, is simply a monstrous iniquity.

I seems to me that legislation, embodying substantially the following features, would in the course of time, to a large degree, eradicate charlatanism and ignorance, and afford the much-needed protection to the people of the state: First, establish a limit, say ten years or more, of continuous practice, which should entitle every physician who could establish the fact by proper affidavits, and if an immigrant from another state, the fact to be established by certificate of the clerk of the court of the county from which he emigrated, to still continue to practice. This would not altogether protect our people from the ignorant practitioner, but it would in a few years either relieve him of his occupation or force him, from pure shame, to abandon it; and, at all events, it would protect the coming generation from his nefarious vocation of murdering for money. Secondly, require of those who are not included in the first class a diploma, obtained from a board of examiners to be appointed by the state, of not less than one examiner for each branch taught in the medical colleges of this state, after having attended two full courses of lectures at some respectable college in the state; the examiners to act under oath, and to receive for such services a fee of ten dollars for each applicant for the degree of Doctor of Medicine; the same to be divided between the examiners, and when such examiners shall have decided by separate vote that the applicant is entitled to receive the degree, the same to be sent to the college where he may have attended lectures, and it shall issue him a diploma at a fee of not more than five dollars. When graduating in other states, the standing of the college in which he took his degree to be certified to by the Governor or Secretary of State of the state from whence he comes. In case of foreign universities, the applicant himself should be required to furnish proof of the standing of the institution, and the fact of his having duly obtained the degree therein. Thirdly, for those who were not in the first class, and who had not been able to receive the advantages of a complete education in a medical college; provide that they should be entitled to practice medicine by showing continued study and practical experience in the science of medicine for at least five years, and then passing a satisfactory examination before the State Board of Examiners. Fourthly, once in five years, at least, require a renewal of certificates, which renewal should only be granted upon the receipt of the old one, accompanied by a satisfactory thesis upon some subject illustrating the progress of medical science and new discoveries made therein. A law embodying these provisions, would be not only acceptable to the medical profession, but, with proper penalties for its violation, would afford great protection to the citizens of the state from the evils to which I have alluded.

Such legislation would be progressive in its effects. While not so strict as the enactments of foreign governments, it would conform more thoroughly to the genius of our institutions. While I would rejoice in its passage as a measure of protection to the citizens of the state, in their sanitary welfare, yet as a member of the profession I am aware it would greatly tend to elevate the standard of medicine. It would relieve us of the odium which has been brought upon the profession by the ignorant practitioners and charlatans; it would protect those who are really skilled, especially in the practice of surgery, from the numerous vexatious suits for malpractice which often arise out of the general evil reputation of the profession; it would arouse a spirit of emulation among our rising men, and would stimulate them to search still deeper into the great problems of medical science; it would give to the great body of the profession a high standing among the medical men of other states; it would each year save the lives of thousands, and doubtless greatly lessen the death rate of our state. Do I, then, ask too much of this society, if I urge you to awake to your duty in this regard, and let your people know the benefits which would accrue to them by the enactment of such a law? When such is the goal to be reached, I trust there will be no one in this society who is not willing to so act as that he may have some share in this glorious achievement in legislation. Animated by pure philanthropy, by the exercise of proper energy you may redeem your state in this particular. When your high aim is the alleviation of the miseries of mankind, I feel confident there will be no shirking of responsibility, no apathy which would lead to the indefinite prolongation of the evils which a united, energetic, common effort would most certainly eradicate.

I turn now from the consideration of the legislation in regard to the alleviation of diseases, to discuss briefly, a subject which has, in the last decade, excited great attention among those devoted to medical science. I refer to the prevention of diseases by sanitary regulations, and the proper method of effecting this, by judicious legislation. To my mind, legislation upon this subject is of more importance than the repressive legislation, to which reference has already been made. The results which are possible to be achieved by sanitary legislation, if we consider the question simply in a politico-economic light, are such as render the subject worthy of the most careful consideration by the law-making power of the state. Viewed from the standpoint of political economy, the diminution of the duration of human life is a diminution of the productive power of the state, in exactly the ratio which such diminution bears to the possible duration of the life of man under proper sanitary conditions, limited only to those years when he is capable of being a producer. The diminution of the average duration of life also imposes upon community, to a large extent, the burden of supporting those who have been dependent upon the producer for their subsistence, and with the reduction of the average productive years of the citizens of the state, there thus arises the added burden of pauperism and destitution, which must be borne by the surviving citizens of the state, and which diminishes in an inverse ratio to the prolongation of the years when the citizen is capable of being a producer. It has been proven that the value to the state of each able-bodied man is fifty dollars annually; if then, we reduce the annual mortality thirty-five per cent. by sanitary legislation, the saving to the state would annually amount, in the reduction of the death rate alone, to more than a quarter of a million of dollars, without taking into the calculation the gain made by the prevention of diseases, which annually cause tens of thousands for a time to be incapable of producing and force them to become consumers. The discoveries of medical science in the last quarter of a century, demonstrate beyond a reasonable doubt, the possibility of reducing the death rate to less than seventy per cent. of its present figures. Mr. Chadwick, the President of the Health Section of the British Social Science Association, has shown that by proper measures of sanitary prevention, the average death rate among the adults in prisons has been reduced to three in the thousand, while the average death rate among adults outside was seventeen per thousand per annum.

Assuming this as a basis, it seems to me that the entire death rate of a state could, by proper sanitary measures, be reduced to fifteen, if not thirteen per thousand per annum.

The great obstacle to overcome is the prevalent idea among the people, that sanitary legislation would be productive of great expense. While this is the argument of ignorance, the students of political economy and the legislators of this country have thus far given too little attention to this matter, in its relations to the real benefit of the state, as a body politic, to convince them that this class of legislation is in reality the truest and highest economy. With the increase of population, as the facts are brought to their observation and vital statistics are more thoroughly digested, this subject will rise into greater prominence and eventually lead to the solution of the problem, legislative sanitation. Already many students of political economy in its highest sense, as the science of government have commenced the investigation of this question, and are gradually gaining information upon the subject, which will, when properly brought to the knowledge of the people and applied to sanitary legislation, save the lives of hundreds of thousands annually.

The general ignorance in reference to the ordinary laws of sanitation is lamentable, and extends, even to those classes of our people possessed of more than ordinary education and general intelligence on all other subjects. Take for example, the large number of school houses built with no regard whatever to light or ventilation, and although the teachers pass examination in hygiene and are taught that each individual requires two thousand cubic feet of air per hour, yet they so regulate their school rooms as to allow less than one hundred cubic feet of air per hour to each pupil. The last house of representatives of this state, I am informed, sat in a hall which did not permit sufficient ventilation—then the air was heated to eighty degrees Fahrenheit, and the result was, that at one time over thirty members were absent on leave of absence on account of sickness.

This same ignorance of the rules of hygiene is seen everywhere—in our factories, halls, churches, theaters, mines, penitentiaries, jails and poor houses. A large proportion of the dwellings of the poorer classes are built without any regard to the health of the inhabitants thereof, upon damp ground, undrained by subsoiling, without cellars, or any provision for the passage of air beneath the houses, and then the slops and refuse vegetable matter are thrown upon the soil to breed noxious gases and malarious diseases. To some extent we are beginning to see in our own state, that noisome importation from the east—the tenement house, crowded perhaps, with a hundred in a single building, where one room serves for the performance of all the domestic duties of the entire family, as well as their sleeping apartment. Is it surprising that such places are reeking with sickening odors, swarming with vermin, are the nests of disease, and the banquet halls of death? Is it any wonder that men accustomed to lead their lives in such abodes become degraded citizens, and feel themselves absolved from respecting all laws—that they should yearly swell the criminal classes, and should be ripe for the inculcation of the dangerous doctrines of the communist?

The strong arm of the law must be invoked, at no distant day, to restrain the avarice of the landlord, who would make his twenty per cent. on his real estate investment, at the expense of the lives of his tenants, offering a perpetual menace to the sanitary and civil safety of the entire community. A change in the condition of the lives of the poorer classes in our cities has become a matter of vital necessity, viewed not only from a sanitary standpoint, if our citizens are to be protected from outbreaks of virulent epidemics, but also from a due regard for the rights of the citizens to be protected from those surroundings, which infallibly lead to the increase of crime and pauperism. I hardly need call your attention to the almost universal consumption of impure water in our cities. Even in large cities the drainage is so arranged as to discharge the filth of the gutters and offal of the cities into the rivers or streams, when such water courses are to be used for the water supply of other cities. In the majority of our cities the evil is still worse, for the water is contaminated by drainage from the surface, or through saturated soil into wells, and these wells are often a little below the level of the water closet, and the result is, the entire water supply of a city is impregnated with organic, and often excrementitial·matter.

Viewed in a sanitary light, is it not indeed a matter of congratulation that our cities, inhabited by a population living in such utter disregard of the commonest laws of hygiene, are not visited annually by sweeping epidemics? Nearly every city of this state, without doubt, presents conditions, which in a warm climate, would lead to the production of sporadic cholera, and a hot-bed for yellow fever germs, and yet the people cavil at the expense of sanitary legislation. The condition of the agricultural portions of the state is hardly better in regard to hygiene. A large portion of the land of the state is low-lying and alluvial, with a limited capacity for the drainage of the natural rainfall, being to a large extent interspersed with swamps, ponds and semi-stagnant streams. In these bodies there are found great masses of vegetable matter in the process of decay. It is conceded as a recognized fact, in the science of medicine, that defective drainage may be assigned as the active cause of two-thirds of our paludal fevers.

While desiring to enter into no discussion of the scientific theories in regard to the nature of malaria, suffice it to say, that although hitherto imponderable, and chemically indistinguishable, the conditions of its production are well established.

Decaying organic matter, when exposed to moisture, heat and a moderate degree of light, presents conditions favorable to its generation, and when that matter exists in large quantities, accompanied by defective drainage, there you will find malaria in its fullest development. The moist grounds of our rich bottom lands is favorable to the production of luxuriant vegetation, and the annual overflow of our streams deposits upon the surface of the ground a portion of this vegetation; water-soaked, and in condition, with the aid of heat, to decay rapidly, and in its decomposition, to exhale into the atmosphere this specific morbific poison. Thus these rich alluvial lands are, from their very richness in inorganic matter, liable to spread this deadly influence, and we find that when they are properly underdrained and the organic matter is to some extent exhausted by a long course of cultivation, the fever is also eradicated. Our low-lying and overflowed swamp lands, are also especially subject to this scourge, as the stagnant water becomes rich in organic matter, both animal and vegetable, and when partially evaporated under our burning summer suns, they are breeding places of malarial diseases, unequaled in the world, unless by the Pontine marshes of Rome.

Would you strike the death-blow to this hydra-headed monster? Would you rescue from disease and death, thousands of your fellow men? Then tell the people the facts. Tell them the remedy lies in draining the marshes; tell them that it lies in clearing the streams of rotting timber; tell them that if they thus expended one-half the amount employed in making roads, malarial diseases would decrease more than seventy-five per cent.; tell them the remedy lies in sanitary legislation; tell them that their legislators are false to the true interests of the people when they refuse to expend less than one hundred thousand dollars annually to protect the lives of the citizens of the state; tell them that their legislators have no right to vote millions for the erection of magnificent buildings, when the people are dying for want of proper sanitary protection; tell them that the legislators have a duty to perform to the citizens of this state, by giving to them a State Board of Health, which shall study the sanitary conditions of the state and devise proper methods for the hygienic protection of the people; tell them that you want Indiana to stand with her sister states, in the front rank of advancing civilization, and that her people shall have the same protection, as the most favored community upon which the sun of heaven shines. I say that the remedy must come in the establishment of a State Board of Health, for the reason that individual effort would be of little service in mitigating the evils to which I have referred. Our relief must come by legislative enactment, and then such measures must be taken by the board as shall lead to the gradual education of the people in regard to matters pertaining to their sanitary welfare.

The necessity for sanitary legislation has become so self-evident that congress has been forced to establish a National Board of Health, for the hygienic protection of the people; and it is now contemplated to extend the power of this board to all states where State Boards of Health do not exist, in order that sanitary protection may be extended the whole people. This should not be. The state should take action itself for the protection of its own citizens, when it has power so to do, without permitting the power of the general government to be extended to matters properly pertaining to local self-government.

The duties of such a board, at its creation, would be extremely arduous; and while I would not suggest the provisions of the statute to be enacted, I trust I may be pardoned, if I call attention to some features of legislation in this regard, which I deem important. The members of the board, however appointed, should be men amply qualified, by having made a special study of and acquaintance with the methods adopted by the National Board of Health and State Boards of Health in other states where they have been established; and during their continuance in office, constant attention to this particular branch of medical science should be made a specialty. They should also, if possible, in some degree be familiar with the meteorology and hydrography of the state. A record should be kept in each county, not only of the deaths occurring, but of the diseases existing therein, in order that information might be obtained, not only as to the causes of deaths, but that the prevalence of certain diseases in particular localities might be established, and measures taken for their prevention, in accordance with the most approved methods of sanitary science. The board should place inself in communication with all county boards, and, if possible, with every physician in the state, in order that their information might be of the widest and most thorough nature. Especial inquiries should be made in reference to the prevalence of paludal diseases, and to what extent they were attributable to defective drainage, as to the general hydrography of the counties, and whether swamps or overflowing streams existed therein, as to what would be the best method of applying engineering skill for the prevention of malarial diseases, in each section of the state; these inquires, if necessary, to be supplemented by actual inspection of districts, peculiarly subject to malarial influences. The members of the board should be authorized to inspect dwellings and tenement houses, in cases where the neighborhood had been specially subject to diseases which might be deemed preventable. They should be charged with inquiry into the health conditions of the various portions of the state, and the endemic diseases therein prevailing. They should specially examine the water of the different cities, and ascertain whether or not it contained organic matter, and whether cemeteries were so situated as to vitiate the water supply of any city, town or neighborhood. They should be provided with sufficient means to investigate the origin and diffusion of epidemics, and authorized, in certain cases, to establish quarantine, when necessary to protect the people of the state from exposure to malignant contagious and infectious diseases. They should make biennial reports to the legislature, recommending such legislation as in their discretion should seem to be demanded for the sanitary protection of the people of the state, and these reports should be written in plain, practical, non-technical language, so as to be readily understood by non-professional men. They should endeavor, by reports or pamphlets, to diffuse hygienic knowledge generally among the people. They should have the power officially, to take such measures as might be deemed best to arrest the spread of epidemic or infectious diseases, including general disinfection of particular localities. Under certain restrictions, they should have the power to compel the application of proper engineering skill for the draining of certain marshes and ponds, or the removal of decaying organic matter from running or stagnant streams. They also should have a limited power for restricting any occupations which were productive of diseases in particular localities, or dangerous to the general health; for instance, the manufacture, or sale of wall-paper containing arsenic in the composition of its coloring matter. They should have a salary commensurate with like work of like men of similar ability, and allowed a reasonable amount annually for traveling expenses.

With a board of health organized under a statute embodying many, if not all, of these provisions, one decade of sanitary legislation, under their recommendation, would diminish the mortality record of the state of Indiana, in my opinion, more than thirty-five per cent. Although the last legislature failed to grant the people this protection, either against the ignorant practitioner and the charlatan, or against the insidious approach of preventable diseases, we should not therefore be discouraged.

And furthermore, the State Medical Society, so far as I know, was entirely unrepresented in that body, and the legislation which was attempted to be accomplished was not by the men who thoroughly represent the medical interests of the state. This should not be. Remember that but a few years have elapsed since these measures of protection were deemed possible in this country. A simple failure in a legislative assembly should never daunt men who are struggling for the preservation of the lives of thousands of their fellow citizens. It is no time to pause, when annually holocausts of the people of this state are causelessly sacrificed to the moloch of disease. The purpose which has led us thus far will never be abandoned, until every citizen of this state shall be protected in all his rights, among the highest of which, is the right of sanitary protection from the state.

Indiana embodies a high civilization; churches, cathedrals and public schools tell of her moral development; universities proclaim that she is a fostering mother to science. The ringing of the anvil and the smoke of the furnace announce her mechanical progress; the iron horse, thundering on her iron tracks, bears her agricultural products to the markets of the world; the busy hum of manufacturing industry fills the most distant corner of the state. Shall it then be said that in humanitarianism her civilization is incomplete? Answer the question with one noble united effort, in the name of human feeling, human sympathy, to give to the people of this state those choicest blessings which sanitary legislation has bestowed upon other favored nations of the earth. When the relations of legislation to sanitary protection are universally recognized, the people will imperatively demand this protection, for the cause of sanitary legislation is the cause of humanity itself.

DISEASES PREVALENT IN THE EARLY SETTLEMENT OF KOKOMO.

C. RICHMOND, M. D., KOKOMO, IND.

The first settlement made in Kokomo with a view to the building up a town, was in the spring of 1845.

A number of individuals came upon the ground selected for the site of the future capital of the county, in the fall and winter previous, for the purpose of building cabins or log houses to put their families into when spring opened.

The incidents, exposures and hardships attending the first settlement of this place were such as most generally attend the first settlement of all new places. And although the hardships amounted to considerable, yet there were many things calculated to soften their severity, and the people were enabled to bear them with commendable grace and a good deal of fortitude, and in many things really to find enjoyment. But I do not propose to give a complete history of every matter connected with the first settlement of the county or town, I shall only introduce so much as will, to some extent, show that the tendencies were favorable to the development of a certain disease, the character of which disease I have in mind mainly to consider.

The site for the town was donated by David Foster, and was laid off into lots by direction of the county commissioners, and the first sale of lots occurred October eighteen, 1844.

The ground was then covered with a heavy growth of timber and under-brush, quite flat, especially on the north side. From the middle of the public square on the north side and running west, it was quite wet and swampy; it has since been filled up and does not appear so bad as formerly. In the spring, when the settlers began to clear off their lots, a great amount of timber was cut down; the logs, brush and trash were left upon the ground to rot. About forty acres of ground were thus, for the first time, exposed to the action of the sun during the hot season. The ground was in very bad condition to be thus exposed, without the addition of the more recent incumbrance of the fallen timber. Little or no attention was given to clearing off the ground, except so far as each one wished to enclose for a garden spot, which was speedily dug up to be in readiness for planting. The winter and spring of 1845 was not wet, yet the low, flat ground was quite wet and soft.

After the first of April, we lived comfortably and pleasantly; the crevices in the walls of our houses affording ample ventilation, as well as opportunity for observing anything going on outside the house. Vegetation came on early, and gave fair promise of many comforts to the new settlers, which encouraged them to think that abundant crops were likely to be the reward for all their labor and privation. The indications were, that we had located on a productive soil, and that our county would, as it has since proved itself to be, one of the best counties in the state for agricultural purposes.

As time rolled on, and the fall season approached, the result of our operations in fixing to build up a town, began to develop. It was soon noised around that some certain person had ague; next day some one else had it, and perhaps the next day four or five others had it; and some were attacked with remittent fever. It soon began to look rather discouraging, and many of us as good as repented having come here; but here we were and could not get away.

Cases multiplied until whole families were prostrated, with none to care for them, only as some neighbor on his *well* day, would crawl around as fast as he could, and do what he could for them. In some families it was a little better arranged, so that they were not all sick in bed the same day, but alternating so that they could attend on each other. The cases continued to multiply, until there was scarcely an individual in the place that was not sick.

In the settlements through the country, they were in much the same condition that we were in town. From this condition we did not fully recover, until sometime in the winter following, some quite late; but finally about all were what we called "well of the ague." Very few deaths occurred this season.

As the ague disappeared, a disease began to develop that was entirely new to most of us. We were told that it had prevailed in various sections of the Wabash country on its first settlement, but after a time had disappeared. As to any authentic history of this disease, I have never seen any, and only know it from having seen it in a great many cases, as well as having had it myself.

The first intimation of the attack was generally a slight soreness in the throat, which was soon followed by a sensation in the mouth and especially upon the tongue, similar to that experienced after taking a mouthful of coffee or some other fluid that is too hot. This sensation was slight in the commencement and gradually increased in intensity until it became quite unpleasant. In most cases the discharge of saliva was increased considerably, in others, rather diminished. The interior of the mouth and fauces became reddened; the tongue generally appeared smooth as though the mucous membrane had slipped off, taking the papillæ with it; deep fissures formed in the tongue that appeared to extend through half its thickness.

These appearances were about all that presented in many cases, only rendering the person uncomfortable, especially while eating, which caused a good deal of pain.

Every article of food of a solid character would feel as though there was an unusual roughness about it, rendering the process of eating very unpleasant and annoying. In other cases, soreness and excoriations made their appearance at the angles of the mouth; the diseased condition of the fauces extended to the palate and thence into the nose, making its appearance at the opening of the nostrils, where we had about the same appearances that are witnessed in scarlatina. Ulcers formed inside the mouth, in some cases, that occasionally presented a dark appearance. This diseased condition of the mucous membrane in some cases extended to the stomach and bowels, traversing the entire length of the intestines, and appearing externally at the anus, with excoriation of the surface, often quite extensive. This condition or extension was mostly confined to young children, and caused the death of several. Little children suffered greatly with the disturbance of the stomach and bowels, in some instances protracted for weeks. Often the eyes became affected, and took on the same appearance that the nose and corners of the mouth did. In most of the adults who had any extension of the disease beyond the mouth, the genital organs were included, taking on the same inflamed, sore condition as existed in the mouth and nose, often causing the falling off of the hair from the surrounding surface, cracking of the skin in various directions, forming scales and discharging a glutinous fluid, accompanied by excessive itching, often to such a degree that no sense of modesty was sufficient to restrain them from scratching when the itching commenced. The scratching would be followed by pain and smarting.

Some were troubled with phimosis, which was very annoying; the diseased condition of the skin extending to the scrotum, causing cracks, the edges of which would turn out and project, so that in walking these edges would catch in the clothing and cause a very disagreeable state of things.

There is still another feature of this disease, that perhaps would more correctly be regarded as a sequence of what has gone before. In quite a number of instances, as the diseased condition of the mucous membrane began to recede, and recovery seemed to be promised in the near future, the feet became affected. This, which at the first appearance of it was slight, soon grew to be very distressing, and was often very painful, and yet the feet presented no external signs of disease, but appeared natural in all respects. The pain was severe in the ball of the foot and toes, and was of a burning character, necessitating the removal of all covering from them, both day and night. This only mitigated the suffering, but did not stop it. The only treatment that gave relief was opium.

With regard to the cause of this disease, I am unable to give any opinion. The predisposing cause was doubtless the condition in which most persons were left by the previous fall's sickness. Some claimed that the constant use of salt pork was the cause; others thought that coffee was the cause. It was claimed by others that as soon as they could get milk and use freely of it, the disease would leave them. In the spring, as a general thing, milk was used freely, less meat and coffee were used, and as the season advanced they generally got better. I am inclined to think that its subsidence was owing more to the change of season, than to the diet, for many persons who had milk and used it freely every day, had the disease as bad as many that had no milk. It prevailed mostly in the winter season.

A great variety of treatment was adopted. Many relying upon their own ingenuity and experiments, treated themselves; others applied to physicians and submitted to their directions. All the ordinary local remedies for sore mouth and throat were used in succession, with variable results. Pregnant women generally suffered more than others, and some few of this class died. These and a few children were the only deaths. During the following summer, most of the afflicted got apparently well. Some had it all summer, but much milder, and as winter returned, there was a return of the disease, but much less severely than before. Those who had the trouble in the feet were the last to get well. With some it continued more or less severely for two or three years, and gradually left them. I am not aware that anything of the kind has since occurred in the county. If it has, it has been in a greatly modified form.

During the summer and fall of 1846, we had about the same variety of diseases that prevailed the previous year, with the addition of a few cases of congestive intermittents.

For the first six years after the settlement of the county, the sickness was mostly confined to the vicinity of the creeks.

no doubt because the first and principal settlements were made along and near them; afterwards extending out into the back country. Yet this was not the only cause. On Kokomo creek the first settlement was quite healthy; but as the farmers cleared up the land along the creek, quantities of trees and trash were thrown into it to get them out of the way; in this manner the creek was greatly obstructed, and that, too, by decaying matter, that would be prolific of the cause of disease. The result was, a great increase of sickness in that vicinity. The same thing occurred in other localities. But this condition of things has about passed away.

During the winter of 1846 and 1847, there were some cases of scarlatina, a few of them of a malignant form, some of which ended fatally. Cases of pneumonia of a typhoid character occurred this winter, not, however, attended by anything unusual.

In March and April, 1847, a number of cases occurred that *were* unusual; such as I had never seen, and of which I could not at that time get any account. It was thought by some, that the symptoms indicated malignant erysipelas. The cases were sufficiently malignant for that matter; for, of twenty-two cases, all died, except two. Cases bearing some little resemblance to these, recovered; but of the well-marked cases, the above was the result. Some of the severest cases run their course and ended fatally in from six to eight hours; others runt from wo to four, or six days, and one or two, to two weeks. The malignancy of this disease caused quite a panic in the community; so much so that the immediate neighborhood was left, in a great measure, to take care of itself; a few persons from town, nobly doing their duty in attending the sick and dying.

All the above cases occurred on Kokomo creek and Pete's branch; a strip of land not over two miles in length and half a mile wide, and immediately south from Kokomo. The attack was ushered in by a chill of more or less severity and duration, followed by fever, which generally ran high for a short time, accompanied by delirium. Soon after the fever set in, there appeared a number, sometimes a great many, bright red spots of various sizes and shapes, slightly elevated, tender to the touch, with general swelling and tenderness of the integument, extending over the entire person. The red spots, after a short time, turned to a bright purple color, surrounded by a bright red line.

Where the chill ended in collapse, the eruption generally appeared, but assumed a dark or brown color, without the red margin. But one case, in which the eruption appeared, recovered. In that, the spots sloughed out, leaving a deep, irregular sore that was hard to heal. This case was less severe than usual, but the swelling of the body and the tenderness were considerable. In most cases of collapse, the force of the malady seemed to concentrate upon the lungs; the breathing soon became laborious, with manifest accumulation of mucus in the lungs and air passages, which, in the agony of dying and spasmodic contraction of the muscles of the chest, would be discharged by the mouth in great quantities—enough, apparently, to produce suffocation.

A few cases that were not attended by the eruption presented head symptoms, as in inflammation of the brain, attended with high fever, furious and persistent delirium, terminating fatally in eight or ten days. One case only of this class recovered. In this case, after recovery, there was a decided deformity of the face, which was permanent; also, some permanent difficulty in the spine, which ultimated in paralysis of the lower extremities.

The treatment adopted was founded upon the appearances that presented themselves as they were seen. Several received no treatment at all, running their course in so short a time that death was at the door before the danger was realized. Cathartics, mercurials, quinine and palliatives were used in all that received any treatment.

RATIONAL TREATMENT OF DYSENTERY.

GEO. L. ANDREW, M. D., LAPORTE, IND.

Dysentery was formerly much more frequent and formidable than at present in our state. Those of us whose professional life overlooks a period of twenty-five or thirty years, remember the days of anxious vigil and work in the management of cases of this disease, which, let us hope, the young practitioners of to-day will never know. In the "good days of old," when every land owner in Indiana "raised" his own malaria, with a good surplus for export if need be, the occurrence of dysentery in an epidemic form was by no means unusual; and sporadic cases were always to be expected. Free and general admission of sunlight to the earth's surface, improved drainage, a more general appreciation and understanding of personal and public hygiene, an increased enlightenment of the professional mind in all matters relating to its prevention and cure, have gone far towards eliminating dysentery from the list of even endemic diseases. Still it occasionally occurs even in districts not usually regarded as malarial, and it not unfrequently presents itself in such shape as to require the wisest and most careful management. It fell to my lot to see such a case in August, 1877, in consultation with my friend Dr. Keen, by whose permission I shall use it as a text for whatever I may have to say about dysentery.

The patient was a young man aged about eighteen years, previously stout, healthy and of a good constitution, with no tendency whatever to bowel derangements. The season had been remarkably free from malarial diseases, although the weather immediately preceding the date of the attack had been quite hot and sultry. He had been, with some companions, "roughing it" on and about Pine lake, sleeping in a tent during the nights. On the ninth of August, immediately after breaking camp and returning home, he was seized with a chill followed by fever, diarrhea and speedily thereafter by dysentery. A daily record was not kept, but the fever was very slight; the tongue throughout the attack was moist, clean and somewhat pointed when protruded; and the liver, stomach and small intestines performed their functions quite satisfactorily. The entire force of the disease seemed concentrated upon the large intestines. The calls to stool were rarely as far as twenty minutes apart; there was great tormina, followed by straining, severe and constant and unendurable tenesmus. The discharges consisted almost wholly of the *lotura carnium*, of Stoll, or the "scrapings of the gut," of our ancestors, always regarded as of the worst possible augury, alternated occasionally with lumps of a bloody albuminoid jelly. At an early stage of the treatment, the bowels had been well emptied of thin fecal contents, by the judicious use of salines and mercurials. The attempt had then been made to relieve the pain and lessen the exhaustive discharge, by the use of opiates and astringents, both by the stomach and rectum, without appreciable results. It was decided to continue the same general line of treatment, increasing the doses and varying somewhat the form of administration. For the next four days the situation was substantially unchanged, such changes as there were, being for the worse. The stomach began to yield either to the force of the disease or the effect of the remedies directed to its cure. There was less of recently coagulated exudate, but there was also much more pus, and the increased fetor of the discharges, and other symptoms, too clearly pointed to a fatal issue. Opium, pushed to the verge of tolerance and safety, had failed to relieve the pain, and astringents, both vegetable and mineral, had been equally ineffectual to control the mucus and bloody flux. The treatment which seemed so useless was abandoned, and six and a half decigrams of salicine were given every two hours and every alternate dose, commencing with the first, was administered with two grams fluid extract of ergot. But three doses of the salicine were borne by the stomach. But the ergot being well borne, was continued at intervals of three or four hours, as long as the discharges indicated its necessity. Although the prescription was made with a good deal of faith in its appropriateness, the result far surpassed our expectations; the tormina, tenesmus and discharges so speedily ceasing as to leave no room for doubt as to the agency of the remedies used. The convalescence was steady, though protracted, because of the pathological changes in the large intestines and the functional disturbances of the stomach and kidneys, remaining after the violence of the disease had subsided.

Dysentery is placed in our revised army table, following the English nomenclature, in the class of zymotic diseases; order, miasmatic. That it is the result of a specific poison is fully accepted by thus placing it with typhus, typhoid and yellow fevers, small-pox, measles and the like. It is defined by Aitken as "a specific febrile disease, accompanied by tormina, followed by straining or scanty mucous or bloody stools, which contain little or no fecal matter. The minute lenticular and tubular glands of the mucous membrane of the large intestines, with the intertubular connective tissue, are the chief seats of the local lesion, which sometimes extends into the small intestine beyond the ileo-colic valve; as in cases in which scorbutus is a predisposing cause." It may be fairly assumed, that whilst the etiology of dysentery is not yet fully understood, its family relation may be regarded as definitely settled. According to Aitken, "there are strong grounds for believing that there is something specific in the nature of the poison which produces dysentery, just as specific as that of small-pox, typhus fever, typhoid fever, yellow fever, scarlatina, ague or diphtheria." This opinion is not accepted by Heubner, author of article on dysentery in Ziemssen's Cyclopedia. He says, "the dysenteric process is not, from an anatomical point of view, a specific affection." This dictum is, however, modified in the next paragraph, thus: "Nevertheless, in many cases, dysentery can not be regarded as a simple inflammation, because the development and propagation of epidemic dysentery show that the irritative causes which give rise to this particular inflammation are developed only under certain conditions, and hence may be considered specific—we see that great numbers of men are made sick in exactly the same way, are infected." On the next page, after describing the localities and conditions peculiarly favorable to the production of this disease, he says: "It must then be that there is something peculiar in tropical climates favorable to the production of dysentery, and one can not but suggest that the long continued high temperature of the air and ground, on the one hand, favors the organic process which is the source of the dysentery poison, and on the other, affects the human organism injuriously, making it in some way sensitive to infection." In view of this concession, it is difficult to see how he can assert, as *ex cathedra*, that "the parasitic theory of Linnæus, who considered dysentery to be itch of the intestines, had to be given up long ago." Neither can this dictum be accepted as final when so recent and great an authority as Wagner says in his "Pathology," "that micrococci have anything to do with the inflammation, I will not venture to affirm or deny." And so we have, as so often the result of ponderous German scholarship, nothing but an intelligent skepticism.

Dysentery is the product of high temperature and moisture. It has this origin in common with many other infectious diseases, but the co-existence of these conditions are not invariably or even usually productive of either dysentery or any of its congeners. It is a malarial disease, but many highly malarial regions are rarely or never visited with dysentery, and it is absent in many seasons of extraordinary malarial activity. It is an infectious disease, yet comparatively few of those subjected to the infection are subjects of its power. It is almost purely a local disease, the constitutional disturbances being surprisingly few and trivial, and yet the pathological changes which it is capable of producing are always grave and are often fatal in their character.

As "in Italy all roads lead to Rome," so in our country, all medical inquiry leads us sooner or later to MALARIA. Its "name is legion, for it is many." Whilst it must be confessed that we have not yet been furnished with a satisfactory definition of it, I think its *composite* character will be eventually established. The "germ theory" of many of the infectious diseases has not been without its advocates since the days of Linnæus until now. The stone which old builders rejected with scorn is about to be laid as the corner stone of the new pathology. Passing with the merest mention the names and labors of Professors Salisbury, of Ohio, Lunzi, of Rome, Balaestra, of Paris, Eichwald, of St. Petersburgh, Richardson, of Philadelphia,[1] etc., some of them relating directly to organisms found in dysenteric discharges, I will only briefly refer to the observations of Professor Tyndall upon the ultra-microscopic organism naturally present in ordinary atmospheric air. It will be remembered that in his lectures on light he has demonstrated,

1. That the air is at all times, even when free from microscopically visible particles, pervaded with particles not separable by the highest power of the microscope, and yet clearly discernible by the peculiar opalescence which they communicate, under certain conditions, to the beam of solar or electric light;

2. That this opalescence disappears when the air is allowed to remain absolutely tranquil;

3. That air from which these minute particles have subsided, is no longer capable of contaminating liquids, although abundantly capable of doing so before such separation. The doctrine claimed, as fairly deduced from those experiments is, that the germs which are most potential in modifying the vital forces, are ultra-microscopical and not amenable to classification by any methods at present available. It is claimed as probable that each of those diseases now known under the generic title of zymotic—and it is perhaps true of many another not thus classified—is the product of one or the other of these germs. Shakspeare saw this, "as in a glass darkly," when he described in Hamlet—

> "The leprous distillment whose effect
> Holds such an enmity with blood of man,
> That swift as quicksilver it courses through
> The natural gates and alleys of the body,
> And with a sudden vigor it doth posset
> And curd, like eager droppings into milk,
> The thin and wholesome blood."
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> —HAMLET, ACT 1, SC. V.

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(1) In order to keep this paper within the prescribed limits, reference is made, without further particularization, to the many widely scattered but highly suggestive facts bearing upon this point, to be found in the medical literature of the past decade. The whole question is now fairly *sub judice*, but much more extended and careful observation than has yet been accorded will be necessary to designate, with scientific accuracy, the effect, if any, of microscopic and even smaller organisms, upon any or all the zymoses.

Whether each disease has its special germ, thus constituting in the microscopical and ultra-microscopical organisms, a classification corresponding to our nosology can not just now be properly affirmed; but I do believe that the near future will reveal, in the direction indicated, a much more precise knowledge of the disease, its cause and cure, than is now generally deemed possible.

As opposed to the spore and germ theory of disease, we have the chemical theory of contagion, which is not without intelligent adherents; but it will receive no more extended notice here, neither will I occupy the time of the society with any further reference to the pathology of dysentery, except to recall the fact that it is primarily a *local* disease confined to the large intestines, specific in its nature and—Dr. Flint notwithstanding—of a fatal tendency. With slight fever, without appreciable disturbance of liver, stomach, kidneys, lungs or skin; with brain and nervous system intact, an inflammation of the mucous coat of the rectum and colon may rapidly be succeeded by ulceration, sphacelus and death.

If this view of the origin of infectious diseases be correct, the way to a rational treatment becomes quite apparent. The indications are, 1, the removal, or, this failing, 2, the destruction of the offending organisms; and, 3, the antagonism of their results by means chiefly hygienic. In the case of dysentery, the first indication is best met by the use of such evacuants as act promptly, thoroughly, yet kindly, upon the intestinal tract. Such are cathartic doses of calomel, the neutral salts and castor oil, given by the mouth, or large enemata of water, cold or warm, according to the state of the patient as manifested by his feelings, but sufficient in quantity to completely fill the large intestine, including the cecum. The possibility of making fluids penetrate the whole length of the large intestine, and beyond even, has long been known; but its use has, until recently, been confined to the removal of scybala from the cecal pouches. It has been of late very greatly extended, and with very excellent results, for the relief of dysentery among other uses. The Davidson syringe is an excellent contrivance, but the fountain syringe, or in the absence of this an india-rubber tube, attached to an ordinary nozzle and fed by means of a funnel, is an improvement. By this arrangement the pressure can be moderated as necessary and the best possible results procured. Owing to the low vitality of these organisms, the probabilities are, that by the judicious use of these means at a sufficiently early state, an ordinary attack of dysentery may be abated—*sublata causa*, *tollitus effectus*—leaving nothing for subsequent treatment except, possibly, a mild opiate or two, rest and other hygienic conditions, to a successful convalescence.

It is not often, however, that the physician has so even a start with the materies morbi, and parasiticides are required to meet the second indication. Fortunately there are many remedies destructive of these low organisms, which are at the same time innocuous to the mucous tissues. Some of these remedies may be best introduced by enemata, and others by way of the stomach. Of the former we have

Sulph. copper (grams, .65 to 1.29 in half liter of water).
Salicylic acid (1 part to 300).
Nitrate of silver (grams, .065 to .13 in 32 grams of water).
Iodine (grams, .32 to 32 grams of water).

Of the latter we have ipecac, salicine and its congeners, quinine, ergot, the alkaline sulphites, etc. These will be briefly discussed in the order given.

For more than two hundred years ipecac has been regarded as the great anti-dysenteric remedy in the region of its production. The method of using it there is to administer from two to four grams of the powder in a little sweetened water in the morning, the patient remaining quietly in bed and avoiding the ingestion of fluids, which would excite vomiting. Night and morning an enema of the infusion of the bruised root is given. The remedy is thus administered every day for three or four days, when copious bilious catharsis is usually produced. If this effect does not occur, a dose of castor oil is given, followed when the evacuation has been sufficient, by mild opiates and astringents. The experience of such of the surgeons in the United States army as used this treatment during the war of the Rebellion, coincided with that which, in Peru, procured for ipecac, more than a century ago, the name radix anti-dysenterica. This treatment has had its greatest triumphs in India and China, reducing the mortality from seven per cent., as it was under the mercurial treatment, to 1.3 per cent., according to Dr. Cornish, as quoted by Professor Maclean. One word here regarding the place of calomel or other mercurial in the treatment of dysentery. *It should have no place at all, except*, and that very rarely, *as an evacuant at an early stage.* In its so-called alterative doses, it may happen sometimes to be useful by the conversion of a portion of the mild into a corrosive-chloride, and so act as a destroyer of organisms; but it is not wise to risk its constitutional effects for the slight good it may, in a hap-hazard way, accomplish in this regard. It should also be remembered that we can never be sure of the strength or idiosyncrasies of our patient. Especially mischievous might mercury become in adynamic complications in scorbutic conditions, in the splenic cachexia and in anemia or in the rheumatic diathesis.

At the head of the class of anti-ferments, just now undoubtedly stands salicylic acid, and it should theoretically act promptly and favorably in any stage of dysentery characterized by the presence of germs. "It acts," says Binz, in his 'Elements of Therapeutics,' "as a poison on many forms of protoplasm by considerably reducing their power to absorb oxygen. Even in small doses it checks a variety of processes which depend upon decomposition. Like quinia, it does not interfere with the normal ferments of the organism itself." Therapeutically, salicylate of sodium resembles the free acid, but is more pleasant to take and more readily absorbed. It has a stronger action on certain forms of bacteria than carbolic acid, quinia, boracic acid and alcohol, and one which is scarcely one-third less powerful than that of free salicylic acid. Salicin is decomposed by certain ferments; for example, saliva with the absorption of water, into saligenin and sugar, the former of which is afterwards readily oxidized into salicylic acid. "The conditions for both these processes exist within the body. Should further investigations verify these statements, although not now classed.

among anti-dysenterics, I think we hazard little in expressing the opinion that these medicines soon will be."

Some sixteen years ago, Dr. Polli, of Italy, introduced the alkaline sulphites, especially the sodium hypo-sulphite, as possessing extraordinary powers in the arrest of the various abnormal ferments, and especially the destruction of the microscopic fungi which were supposed to produce typhoid fever. Other low febrile and malignant diseases, purulent infections and the contagium of various exanthems were included in the range of the beneficial influences claimed for the sulphites. If these claims are verified, it would seem quite probable that dysentery might be favorably affected by them. I do not just now recall any instances in which they have been thus used. Dr. Gazzo, of Louisiana, reports great success in the treatment of an epidemic dysentery, with a mixture of sodium sulphite, salicylic acid and tincture of opium. Granting the greatest possible success to this mixture, opinions would doubtless differ as to the agency of its various constituents.

Ergot is one of those medicines that can scarcely be classified. The destructive energy with which it attacks all the soft tissues of the extremities, when given in large and long-continued doses, producing "gangrenous ergotism," and that peculiar condition of the nervous system, known as "convulsive ergotism," serve to place it among the organic poisons. In medicinal doses it possesses the power of acting directly upon involuntary or unstriped muscular fibre, producing powerful and persistent contractions. It is seen by the ophthalmoscope to cause a marked contraction also of the capillaries, and the same result is visible in the frog's foot by the aid of the microscope. Ergot might then be confidently expected to be useful in the treatment of dysentery, in virtue of its three-fold power to destroy organisms; to constringe the involuntary muscular fibre of the large intestines, and, by lessening the calibre of the intestinal capillaries, to directly affect the inflammatory process.

Reference has been had all along in this discussion to dysentery *pure* and *simple*. It is hardly necessary in this presence to insist upon the necessity of an accurate diagnosis. A course of treatment exactly adapted to a case of dysentery would fail if applied to a case of ulcer of the rectum or fissure of the anus, accompanied by dysenteric symptoms. A simple colitis or proctitis would receive no benefit from medicines adapted to the destruction of germs. Neither should it be forgotten that we have often, either accompanying or succeeding dysentery, biliary derangements, splenic infarctions and all the phenomena of the various diathesis to look after. There is the same necessity to be met of a careful management of the period of convalescence. Pure air and water, nutritious food, suitable clothing, good nursing and a careful observance of all hygienic demands are as essential as they ever were. What Fothergill calls "systematic impairment from bad environment" must be prevented by a ceaseless vigilance.

In conclusion, it should be noted that notwithstanding the recent brilliant discoveries in the pathology and therapeutics of this class of diseases, the fact remains that each case is a separate problem, with conditions and necessities of its own, and that no easy method has yet been discovered which will relieve the practitioner from the exercise of his ripest scholarship, and the clearest intellection of which he may be capable.

DEATH FROM CHLOROFORM.

W. W. VINNEDGE, M. D., LAFAYETTE.

It behooves every practitioner of medicine and surgery to give to the profession, for its guidance, a detailed report of every case whose management is attended with great difficulty or danger, whatever its results, in order that a correct conclusion may be arrived at as to the propriety of any particular line of treatment (Haywood Smith). What is true of the practice in general, is true of the use of drugs as medicine, and especially anesthetics. I therefore offer the following report of an unfortunate case, in order that it may be used in the way of statistics, and in the belief that it contains some suggestions for every member of the society:

On the twenty-first day of March, 1879, about ten o'clock A. M., Thomas Flattery, in company with Mr. W. W. Wentz, road-master of the LaFayette, Muncie & Bloomington Railroad, came to my office in order to obtain treatment for a severe injury of the eye-ball. The patient had his injured eye covered with white powder, over which was tied a white handkerchief.

Flattery stated that he was employed by the LaFayette, Muncie & Bloomington Railroad as a section hand; that the section on which he worked was located in Tipton county, and that he suffered the injury on the sixth of February, just six weeks previously. As he was "spiking" down a rail, the large part of the nail flew off and struck him violently, partly on the left lower eye-lid, and partly on the eye-ball. He at once went to the office of Dr. —— Bouse, of Goldsmith, by whom he was treated for some days. In due time it became apparent to the doctor that a removal of the injured eye-ball would be necessary, to preserve vision in the opposite eye; he therefore advised his patient to consult Dr. Thompson, of Indianapolis, who, on March seventh, after an examination, wrote Dr. Bouse as follows: "I find that he (Flattery) has a dislocation of the crystalline lens into the anterior chamber, and a staphyloma, in the region of the ciliary body upwards," and advised the removal of the eye-ball. On the eighteenth of March, Dr. Bouse advised him not to delay the removal of the eye-ball any longer, and wrote a letter to Mr. Wentz, urging the importance of an operation at once.

On the examination of the injured eye, I found the conditions described by Dr. Thompson existing, and I had advised enucleation before I had seen the letters of either Dr. Bouse or Dr. Thompson or had ascertained their views. After I had recommended the operation, Mr. Wentz showed me letters from these gentlemen, and told me they had come to my office to have the operation performed, provided my opinion coincided with those they already had.

Vision was almost destroyed in the injured eye. The patient was not able to locate the window or door in my office, if his right eye was closed, so complete was the blindness. In the right eye, vision was good; he complained of nothing except a little cloudiness; of the eye becoming tired quickly under use, and of weeping. I regarded this as sympathetic irritation, if not sympathetic ophthalmia.

During my examination, I learned that he was a native of Pennsylvania, single, twenty-nine years of age; that he had never suffered an attack of rheumatism or any other serious illness; that his habits had been uniformly good, and that he knew of no hereditary disease in his family. He assured me that he found no trouble in performing his duty along with the rest of the gang with which he worked, and Mr. Wentz interrupted, "he had been selected from among his comrades for promotion, because he had given such good satisfaction as a workman."

In the absence of the history of any disease of the organs of the chest, I, in my physical examination, unbuttoned his shirt sufficiently to ascertain the shape of his chest, its movements under respiration, and to assure myself that there was no disease in the apex of either lung. I examined the heart, both by auscultation and percussion, according to my remembrance, over his shirt; I discovered nothing that caused me to suspect disease of that organ.

In order to accommodate the patient, who wished to return home as quickly as possible, I decided to operate at half past two o'clock P. M., on the day of his arrival at LaFayette. He went to St. Elizabeth's Hospital, to take a couple of glasses of milk at noon, expecting to remain there until the following day, in order to sleep off the effects of the chloroform.

There being no objection on the part of the patient, I invited my friend, Dr. C. M. Ramsdell, to administer chloroform. At the hour appointed for the operation, Dr. Ramsdell and myself went to the hospital, where we found Mr. Wentz and the patient, in the latter's room, waiting for us. Flattery said he was willing and anxious for the operation to be performed, as he had already suffered so deeply from the pain. He laid down on his bed, which was a single one, having a hard mattress on it, while the room was well ventilated by the two windows which it contained, being pulled down six or eight inches. Present—Mr. Wentz, one of the Sisters, Dr. Ramsdell and myself. Dr. Ramsdell gave the anesthetic by sprinkling chloroform through two thicknesses of muslin, which was held two or three inches away from the patient's nose, while the drug was sprinkled on this frequently. We estimated that about twenty minutes was consumed in bringing the patient under the influence of chloroform—perhaps it was more. From the beginning of the administration of chloroform, until the close of the operation, was about thirty-one minutes; about five centilitres of chloroform were used during the operation, the purity of the drug being ascertained by test, before the operation. Just as the operation closed, the patient made an attempt to call, as he had done when partially under the influence of chloroform, and throwing up his hands, suddenly ceased breathing; at the same time his pulse became imperceptible at the wrists. The chloroform inhalation had ceased a quarter or half minute before these unfavorable symptoms appeared. Dr. Ramsdell seized the patient by the legs, and held him at an angle of about forty-five degrees, with the head downwards, while I imitated respiration, according to Marshall Hall's method. In about ten minutes I gave the patient's hands to Mr. Wentz, while I listened over the chest for the heart sounds. I thought I heard the heart beating feebly and frequently, but I was not sure of it; about five minutes before this, I noticed that the blood oozing through the wound left by the removal of the eye-ball, was venous in appearance, whereas a short time before it was arterial. From this circumstance alone, I reasoned that respiration had ceased before the heart became quiet. We continued Marshall Hall's method for an hour longer—long after I became convinced that our efforts to resuscitate would prove hopeless. When it became apparent that nothing more could be done, and that the patient was dead, we went immediately to the coroner's office and reported the accident, and requested that the cause of the death be investigated. Accordingly, writs were issued, a jury impanneled, and on the following morning the investigation was begun.

For further particulars as to the cause of the death, I present the testimony before the coroner's jury, of four of our leading physicians.

B. F. Ingersoll, M. D., under oath, said: "I have frequently administered chloroform, and am acquainted with its effects. In the light of the testimony of Dr. Vinnedge, I should say he was justified in using it as he did. I would say that Dr. Ramsdell's mode of administering chloroform was judicious. The operation of removing the eye-ball is very painful, and I would risk the death of the patient by administering chloroform rather than attempt the operation without it. The amount of chloroform administered has little to do with it. The amount of chloroform inhaled by the patient depends largely on the temperature of the room, and the amount of ventilation. The first effect of chloroform is to quicken the pulse—then it becomes weak, but I usually watch the respiration. The danger depends on the condition of the patient. Dr. Vinnedge having examined the heart and lungs, and having found them normal, he was justified in his action. Patients often die under the influence of chloroform, when the *post-mortem* examination fails to show any organic troubles. It is sometimes difficult to determine organic troubles of the heart and lungs, by examination of the patient before the operation."

R. M. O'Ferrall, M. D., under oath, said: "I have often given chloroform. I regard chloroform as very dangerous. It should not be given to patients with diseased heart and lungs. I should say that fatty degeneration of the heart is difficult to ascertain by physical examination, more difficult than valvular diseases. No man is safe in taking chloroform, and he takes his life in his hands whenever he takes it. Persons in good health may die from it. In operations on the eye, I should use some anesthetic, as the eye is very sensitive, and indeed it is necessary that the patient remain perfectly quiet."

G. F. Beasley, M. D., under oath, said: "The administering of chloroform is dangerous, and organic troubles increase the danger. I should say, from what I have discovered by *post-mortem* examination, that it would have been difficult by physical examination to discover the diseased conditions of the heart and lungs as we found them. The only thing that could have been discovered, probably, would have been a feeble impulse of the heart. The condition of the lungs would not likely have been discovered. Pain sometimes weakens the action of the heart. The condition of the heart of the patient would probably have been indicated by feeble action of the heart. In my opinion the patient died of paralysis of the heart, under the influence of chloroform. The pain from the injured eye would have weakened his nervous system and made the action of his heart feeble. The disease of the heart was of long standing."

Wm. F. Cady, M. D., under oath, said: "I should say that, generally speaking, chloroform as an anesthetic is a safe agent. It is uncommon for the patient to die under its influence. I should say that physical examination of the chest, by the ear, eye, and tapping the chest, is not always a sure mode of ascertaining organic troubles of the heart and lungs. There are different degrees of skill and ability in detecting organic troubles by physical examination. It is as difficult to become familiar with all the different chest sounds, as it is to learn to play on the flute. Mr. Flattery's heart was badly diseased. The muscles of the heart had become changed into fat; the cavities of the heart had become largely dilated, the walls becoming very thin. The action of the heart was very feeble, and became more so under the influence of chloroform. I should say that he died of heart disease, under the effects of chloroform. He might have lived a long time with his heart in the condition it was, if it had not been necessary to administer chloroform."

POST-MORTEM EXAMINATION.

"Apparent age about thirty years; hight, five feet, ten inches; weight, about one hundred and sixty pounds; the muscular system well developed. *Rigor mortis* well marked. On opening the chest, the lungs were found to be engorged with blood.

"The pleura on the right side was adherent from about the middle of the chest entirely over the lower portion. These adhesions were dense and quite firm, indicating that they were of long standing.

"The upper portion of the right, and the whole of the left pleura, were free from adhesions.

"Heart next examined; the pericardium was found to be adherent over the entire anterior surface. It required the use of the knife to separate the coats; at the sides and posterior surface the coats were bound together with numerous fibrous bands, most of them so firm as to require the use of a knife to separate them. The heart was surrounded by fat. The cavities of the heart were all empty. The muscular tissue soft and flabby—so soft that by pinching, the thumb and fingers could be easily made to penetrate it. The muscular tissue of the right ventricle was almost obliterated by fatty tissue. The heart was dilated, muscular tissues pale and flabby, weighing three-quarters of a pound.

"The liver enlarged and congested, extensive adhesions on the anterier surface—slight on the posterior.

"The kidneys enlarged and congested. The rest of the abdominal organs healthy.

"The head was examined. The scalp was closely adherent over the entire extent. On removal of the upper part of the skull, the membranes surrounding the brain were found to be engorged with blood. The brain substance was congested, as was the membrane lining the cavities.

G. F. BEASLEY.
W. F. CADY."

The verdict of the coroner's jury was: "We find that the deceased came to his death by reason of disease of the heart—his immediate death being caused by the administration of chloroform while undergoing a surgical operation."

STATISTICS OF PLACENTA PREVIA.

Collected from the Practice of Physicians in the State of Indiana.

ENOCH W. KING, M. D., GALENA, IND.

From the earliest days of medical practice, of which we have any record, the condition that we now recognize by the term placenta previa has been one of dread to the practitioner of midwifery, and one of interest to the student of obstetrics. Its extreme danger to both mother and child, make it a source of anxiety, while its rare occurrence is an obstacle to its study; the experience of the most learned obstetricians being confined comparatively to but few cases. The results of no one man's observations and study can be accepted as orthodox teaching in any branch of medical science, much less upon this subject, where even the largest opportunities furnish but little data.

Recognizing this fact, prompted Churchill, Simpson, Trask, Read and others to collect and study statistically, the published experience of the medical profession on this subject; and undoubtedly induced Dr. Sutton, in his valuable paper presented to this society at its meeting last year, to make use of the following expression: "That many of our physicians whose range of practice is principally confined to the country, have a large amount of valuable unpublished experience on this subject, which if collected in the form of statistics, would throw light on the frequency of the occurrence of placenta previa, the modes of treatment principally adopted, and the fatality attending this accident within our state."[1]

As there was no action taken by the state society upon a suggestion made by Dr. Sutton, that a special committee be appointed for that purpose, I consulted a few of my most intimate professional friends as to the expediency of attempting it, and concluded to voluntarily undertake the work myself, and will present you to-day the results of my efforts.

I issued the following circular letter, which I sent through the secretaries of the county societies, auxiliary to the state society, and in counties in which there was no county society, I sent a copy direct to every physician whose address I could obtain, my object being to reach every regular physician in the state:

GALENA, FLOYD COUNTY, IND., AUGUST 1, 1878.

DEAR DOCTOR—I am preparing a statistical report of cases of placenta previa that have occurred in this state, to be presented at the Indiana State Medical Society, in May, 1879.

Therefore I address you this circular and respectfully request you to fill out the annexed blank and return to me at your earliest convenience, or at least before April first, 1879.

If more than one case has come under your observation please report them, embodying the points suggested in the circular. If no cases have occurred in your practice, please return the blank with that statement, that I may know how universal has been the response to my circular.

Due credit will be given in the compiled report to each reporter.

I am, Sir, very respectfully, etc.,

ENOCH W. KING, M. D.

Report of a case of Placenta Previa occurring.., 18......

in the practice of.., *M. D.*

1. Name (or initials) of patient and age ....
2. Number of previous pregnancies...... ....
3. The time of pregnancy, when hemorrhage commenced, with amount and frequency of recurrence..........................
4. Condition of patient previous to and during confinement..... ....
5. Placental presentation, partial or complete..........................
6. Presentation of child..
7. Treatment..
8. Result to mother.. ....
9. Result to child..
10. Remarks ....

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(1) State Transactions, 1878, page 111.

I feel gratified with the responses received, many returning the circular with the statement that no case had come under their observation, others reporting their experience. Those, with what I have collected from reports in state transactions and medical journals that have been within my reach, aggregate one hundred and twelve cases, which I have tabulated in the following manner, and have endeavored to give due credit to each reporter; and as near as possible, consistent with space, have used the reporter's own expression, and thus enable others to study the cases themselves and see if they think I am justified in the conclusions I make in regard to them.

NO. OF CASE.	NAME AND ADDRESS OF REPORTER.	DATE OF CONFINEMENT.	INITIALS OF PATIENT.	AGE.	NUMBER OF PREGNANCY.	TIME OF PREGNANCY WHEN HEMORRHAGE COMMENCED, WITH AMOUNT AND FREQUENCY OF OCCURRENCE.
1	Alexander, S. J., New Albany		Mrs D.	40	Several	Do not remember; I was called in consultation.
2	Alexander, S. J.	June 30, 1870	Mrs. B.	25	Fourth	Several during the sixth and seventh month, often repeated and severe.
3	Alexander, S. J.		German.	30	Mult.	Nothing known of the case until called at full term; flooding excessively, and much exhausted.
4	Alexander, S. J.	April 3, 1878.	Mrs. M.	45	Seventh.	At full term and ten days before labor, not severe; was much exhausted when I was first called. Had been in charge of homœopath, who was "waiting for pains."
5	Allen, Hiram P., Reelsville	Oct. 13, 1878.	H. G.	38	Seventh.	A light hemorrhage at close of eight month, no other till last of ninth month; six hours afterwards, found her much exhausted and drenched with blood.
6	Bates, A. J., Upland	June 22, 1878	Mrs. T.	...	Fifth	At eight and half months, with severe hemorrhage.
7	Beck, Joseph R., Ft. Wayne	Oct. 3, 1872	W. R. W.	28	Third	Twenty-seventh week had just ended. Had only one hemorrhage, large in amount.
8	Beck, Joseph R.	Jan. 3, 1873	R. S. L.	...	Second	Had five or six alarming hemorrhages within the thirtieth week; had but one while under my care.
9	Beck, Joseph R.	Apr. 5, 1873.	H. W. G.	32	Fifth	Just after completion of the seventh month, quite large. Again, three days later, also large. Delivered within three hours after second hemorrhage.

PRESENTTION OF PLACENTA.	PRESENTATION OF CHILD.	TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.	REMARKS.
Complete....	....	Turned and delivered easily. Did not rally from the exhaustion, and in a few hours died.	Died......	Living	In the practice of the late Dr. P. S. Shields.
Complete....	....	Quiet, rest, cool drinks and astringents, tampon several times, brought on delivery at close of seventh month. Dilatation of os easily accomplished by manipulation, then turned and delivered.	Died......	Dead..	Mother died in two or three hours, perhaps from uterine hemorrhage.
Complete....	....	Os uteri being easily dilated, I immediately turned and delivered.	Recov....	Living	
Complete....	Shoulder	Removed a tampon which had been introduced several hours before; os well dilated; passed hand thro' placenta, seized feet and delivered, reacted well under ergot and stimulants	Died......	Living	Mother died on the thirty-ninth day of septicemia.
Complete....	Head......	"With my right hand I peeled the placenta loose, while I made pressure on the perineum with my left and napkins, which stoped hemorrhage. Instruments arriving, we delivered immediately."	Died......	Dead...	
Complete....	Head......	Controlled hemorrhage with ergot, made an opening through placenta; patient would not submit to turning or any other method of delivery. Completed in twenty-four hours.	Recov....	Dead...	
Partial........	Vertex..	Gave hypodermic ergot at once; head came down rapidly, stopped the bleeding; delivery completed in two hours.	Recov....	Dead...	I do not offer any apology for my treatment of placenta previa, although my experience has been limited. In this, as in everything, I am radical in my views. The mother occupies a more or less prominent place in her family and in society, and greater or less interests depend upon her life. The child has all these to attain. For these reasons, I never pay the slightest attention to the fetus, my only aim being to save the mother.
Complete....	Vertex..	She had had tampon after tampon before I saw her, with bad results. I gave hypodermic ergot largely, introduced a steel sound within the os, turned it rapidly around, sweeping the attached placenta loose, and delivered in less than an hour. The hemorrhage ceased after complete detachment of placenta.	Recov....	Dead...	
Complete....	L. O. A..	At first hemorrhage; rest, opium and per-chloride iron. Second time, ergot; forcible detachment of whole placenta; dilatation rapid and by force, and premature delivery.	Recov....	Dead...	

NO. OF CASE.	NAME AND ADDRESS OF REPORTER.	DATE OF CONFINEMENT.	INITIALS OF PATIENT.	AGE.	NUMBER OF PREGNANCY.	TIME OF PREGNANCY WHEN HEMORRHAGE COMMENCED, WITH AMOUNT AND FREQUENCY OF OCCURRENCE.
10	Beust, B., New Albany.........	Nov., 1868.....	Mrs. G...	38	Sixth.....	Slight hemorrhage every month during the last three months of pregnancy, lasting one or two days at each recurrence.
11	Blunt, M. S., Mt. Vernon.....	....	Mrs. S....	...	Pluri p....	About six weeks before expected confinement, quite a loss. Three weeks later, evidence of quite a loss.
12	Blunt, M. S.........................	Oct. 6, 1868...	Mrs. H...	...	First......	Was in charge of a midwife who, on discovering her condition had sent for a physician, who went, and after ordering her some opium and acetate of lead left her still in hands of midwife. Found her flooding profusely.
13	Bray, M. J., Evansville.........	——, 1856......	....	40	Second...	At birth, once.
14	Brill, J. H., Pittsborough.....	May 19, 1873	Mrs. M...	26	First......	Two months before full time, recurred from one to three times a week; at full term, appearances indicated that a frightful hemorrhage had taken place, but during labor very little lost.
15	Cannon, G. H., New Albany	April 9, 1878.	M. T......	28	Fourth...	Two weeks before full term; delivery effected within two days; bleeding profuse.
16	Clapp, W. A., New Albany..	Jan. 3, 1869..	M. K......	35	Sixth.....	Three months before full term; often and quite free till full term, when delivered.
17	Cooper, W., New Albany.....	About 1840...	....	...	....	Do not remember, was in consultation ten miles in the country.
18	Cooper, W...........................	1843 or '44.....	Mrs. B...	40	Second...	At full term.
19	Cooper, W...........................	....	Mrs. M...	35	Fifth......	At about ten days before full term.

PRESENTATION OF PLACENTA.	PRESENTATION OF CHILD.	TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.	REMARKS.
Complete....	Head......	Tamponed with alum-water for about twenty minutes, then turning of the child with extraction.	Recov....	Living	
....	....	When I reached the house at second attack, not an hour having elapsed since first pain, I found both child and placenta expelled together.	Recov....	Living	Child died in a few hours.
Complete....	Head......	Os dilated to size of a silver quarter dollar. Tampon applied. Consultation decided upon delivery as quickly as possible; removed tampon; os dilatable; turned and delivered, occupying but a few minutes and causing very little distress to mother.	Died......	....	The womb contracted well, but the mother sank and died in fifteen or twenty minutes, much to the surprise of both of us.
Complete....	Head......	The child was turned, and delivered feet first.	Recov....	Dead ...	
Complete....	Head......	When I first arrived hemorrhage had ceased and no uterine contractions. Gave quinine, opium, rest, etc. At eleven A. M. next day found her in labor contractions, feeble; quinine and ergot; at three P. M. applied forceps and delivered.	Died......	Dead ...	Mother died in seven days; child had evidently been dead some days. Reported in "Indiana Journal of Medicine," August, 1875, page 145.
Partial	Vertex...	Tampon thirty-six hours, then rupture of membranes and dilatation with fingers; delivery with forceps.	Recov....	Dead ...	
Complete....	....	In consultation with the late Dr. P. S. Shields, os being dilatable, he turned and delivered. Doing well when three hours afterwards suddenly fainted and died.	Died......	Living	We supposed the mother died from heart clot. There was no post partum hemorrhage.
Complete....	....	Doctor in charge said he was obliged to remove the placenta before child was delivered. Found her pulseless, and died in a few moments after I reached the house.	Died undelivered.	....	
Partial.	Head......	Tampon immediately, and not removed until pains came on, then the membranes were ruptured; there was no further trouble.	Recov....	Dead ...	
Partial	Head......	Tampon applied at once, repeated every two or three days, until labor came on; perfect quiet enjoined.	Recov....	Dead ...	

NO. OF CASE.	NAME AND ADDRESS OF REPORTER.	DATE OF CONFINEMENT.	INITIALS OF PATIENT.	AGE.	NUMBER OF PREGNANCY.	TIME OF PREGNANCY WHEN HEMORRHAGE COMMENCED, WITH AMOUNT AND FREQUENCY OF OCCURRENCE.
20	Cook, Ward, Pendleton	Nov. 30, 1856	P. J.	...	Mult.	Not definitely remembered; occasionally during latter part of gestation; at labor profuse and in imminent danger.
21	Cook, Ward	July 20, 1858.	J. H.	...	...	Not known.
22	Cross, J. B., Bainbridge	——, 1852.	Mrs. K.	32	Sixth	In the sixth month, and recurred at the end of each month, until confinement; quantity large.
23	Cross, J. B.	——, 1854.	Mrs. Mc.	35	Fourth	Had continued some hours before I saw her.
24	Cross, J. B.	——, 1865.	Mrs. W.	33	Fourth	About seventh month; worse at the end of each month; quantity excessive, producing complete exsanguination and the most profound debility.
25	Daniel, David H., Otwell	Jan. 13, 1873.	V. B.	20	Second	At about six and a half months of gestation, continued until delivery; fifteen hours afterwards, profuse.
26	Darling, N. S., LaPorte	Aug. 19, 1878.	Mrs. M.	40	Eleventh	At about seven months; repeated hemorrhages for five or six weeks before I was called; found patient literally almost bled to death; lost but little blood after I entered the house.
27	Davis, R. A., New Albany	Sept. —, 1878.	J. S.	...	Third	Within a week of full time; hemorrhage not severe; delivered in thirty hours.
28	Davis, J. R., Morris	July 15, 1868.	M. H.	...	Eighth	At or near full term; recurred three times in seventy-two hours; large quantity.

PRESENTATION OF PLACENTA.	PRESENTATION OF CHILD.	TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.	REMARKS.
Complete....	Vertex...	Turned and delivered by the feet.	Recov.....	Dead ..	
Partial........	Vertex...	Found os well dilated and head low; pains had ceased and hemorrhage now slight. Ergot had been given, without effect. Delivered with forceps.	Recov.....	Living	
Complete....	Head......	Used only means at hand; fingers with tampon dilated the os, then turned and delivered.	Recov.....	Dead ..	
Complete....	Head......	Dilated os with fingers and tampon of rags; no uterine contractions; I saw necessity for immediate action; with jack-knife performed craniotomy, made traction and delivered.	Recov.....	Dead ..	I was miles from home in the country; no time to send for counsel or instruments.
Complete....	Head......	Used my fingers with tampon; dilated the os, turned and delivered to the heads, which I brought through one at a time, as best I could.	Recov.....	Dead ..	Monstrosity. Had two heads complete, one soft and fleshy, the other hard; "this fleshy head came out about the middle of the occipital bone, fastened by a fibrous cord of two inches, and was about the size of the true head."
Complete....	Breech...	Strong uterine contractions; I at once gave ergot, passed hand through placenta, seized feet and delivered.	Recov.....	Living	Child died in half an hour.
Complete....	Head......	At four A. M. found os slightly dilated; no pains; passed hand into vagina, intending to turn; "husband and wife Polander, could not speak English; woman complained, husband interfered and compelled me to desist;" tamponed thoroughly and gave ergot; pains came and delivered by twelve M.	Died......	Dead ..	Mother died in about four days, in consequence of the great loss of blood previous to my taking charge of the case.
Partial........	Natural..	Woman stating she was only eight months pregnant; gave opium to quiet, but labor came on and soon delivered.	Recov.....	Living	
Complete....	Head......	Used tampon, not effectually perhaps as I might have done, as it did not control hemorrhage at any time more than a few hours; when os dilated, introduced hand, separating placenta from side; turned and delivered; full dose of ergot before turning.	Recov.....	Living	

NO. OF CASE.	NAME AND ADDRESS OF REPORTER.	DATE OF CONFINEMENT.	INITIALS OF PATIENT	AGE.	NUMBER OF PREGNANCY.	TIME OF PREGNANCY WHEN HEMORRHAGE COMMENCED, WITH AMOUNT AND FREQUENCY OF RECURRENCE.
29	Day, B. J., Evansville..........	——, 1869......	Mrs. G...	...	Fifth.....	Not definitely remembered; only saw patient at or near full term; considerable blood had been lost.
30	DeForrest, D. A., Boonville..	Mar. 3, 1878..	C. D......	26	Fourth...	At commencement of labor and alarming.
31	Dollen, T. C., Trinity Springs	May 13, 1878.	R. W......	34	Sixth.....	About three weeks before full term; recurred every three to five days; at labor very copious.
32	Evans, E. B., Greencastle.....	Aug. 7, 1876..	W. H.....	32	Third.....	Seventh month slight, again in four weeks, again at night severe; when called found her pulseless and almost exsanguine; could not speak above a whisper; cold and pulseless.
33	Fleming, W. A., Pleasantville	——, 1870......	M. M......	38	Eighth...	At six weeks or two months before regular labor; was easily controlled; recurred at intervals, until labor, when there was a great deal of hemorrhage.
34	Fleming, W. A.....................	——, 1874......	S. H.......	25	Second ...	Above remarks applicable.
35	Freeman, Wm., Pennville....	May 30, 1877.	Mrs. G...	30	Third.....	In the latter part of the seventh month; recurred in two weeks moderate; at the last of eighth month, more frequent.
36	Gobbel, Fred., Leavenworth.	Aug. 21, 1875	M. J. P...	...	Sixth.....	At nine months as first symptom of labor; suppose she had lost as much as five pints.
37	Haughton, R. E., Indianapolis	——, 1856......	Mrs. A...	...	Third	In the seventh month, with recurrences every few days, producing decided debility before I was called to the case; hemorrhage alarming.
38	Heath, W. N. Sharpesville...	May 4, 1874...	Mrs. B...	...	Second...	Not until labor commenced; I arrived in an hour, found hemorrhage very profuse; much exhausted and extremities cold.

PRESENTATION OF PLACENTA.	PRESENTATION OF CHILD.	TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.	REMARKS.
Complete....	....	Tampon had been used without stopping hemorrhage; went immediately for feet and delivered without difficulty.	Died	Dead...	Mother died almost at completion of turning. Was an epileptic.
Complete....	Head......	Gave ergot; detached placenta, rapidly delivered it, and then the child.	Recov.....	Dead...	
Complete....	Head......	Dilated os with fingers as rapidly as possible; ruptured membranes and gave ergot; head pressing on cervix stopped all hemorrhage and nature terminated the labor.	Recov.....	Living.	
Complete....	Head......	Detached placenta at side, brought down feet and delivered to hips, plugging the os; remaining ten minutes, when delivered.	Recov.....	Living.	Child died after a few feeble respiratory efforts.
Complete....	Hand.....	Detached one side of placenta; introduced hand and made a footling; aroused labor pains with quinine, ergot and cold to abdomen.	Recov.....	Dead...	
Complete....	Breech...	Found laceration in placenta, with fold of cord protruding; no pulsations, breech low down; allowed child to pass through placenta, which it did in thirty minutes.	Recov.....	Dead...	
Complete....	Head......	Used tampon until head was in inferior straight, then used forceps; delivered placenta entirely before using the forceps.	Recov.....	Living.	
Complete....	Vertex...	Found her unconscious; gave large doses of quinine and ergot; introduced hand, turned placenta to one side and compressed it; pains coming on, the head became engaged in pelvis, stopping all hemorrhage; delivered in three hours.	Died.	Dead...	As soon as delivered, hemorrhage came on profusely, and in fifteen minutes death ensued.
Central..	Head......	Detaching placenta sufficiently, introduced hand, brought down feet and delivered; pressure upon aorta; stimulants, tonics and position, yet the previous drain led to final exhaustion, and death soon after delivery.	Died	Dead...	
Complete....	Shoulder	Os dilated sufficiently to admit two fingers; assisted dilatation, when I turned and delivered.	Recov.....	Dead...	

NO. OF CASE.	NAME AND ADDRESS OF REPORTER.	DATE OF CONFINEMENT.	INITIALS OF PATIENT.	AGE.	NUMBER OF PREGNANCY.	TIME OF PREGNANCY WHEN HEMORRHAGE COMMENCED, WITH AMOUNT AND FREQUENCY OF RECURRENCE.
39	Hibberd, Jas. F., Richmond	Jan. 18, 1868.	S. M. D..	...	Second....	January 15, quite free; January 17, free, and several times during the 18th; fainted several times before delivery.
40	Hibberd, Jas. F....................	——, 1850......	....	...	....	....
41	Hibberd, J. F.......................	....	....	...	....	....
42	Hobbs, A. G., Arthur..........	May —, 1878.	M. S.......	25	Second....	Slightly more than eight months; large gushes with every pain, which occurred every fifteen to thirty minutes.
43	Hobbs, Wilson, Knightstown	——, 1856......	Mrs. W..	35	....	Occasionally during last month; never alarming until commencement of labor.
44	Hon, U. H., Paoli................	Feb. 13, 1877.	Mc.D.....	45	Fifth......	"Between two and three weeks before full term; recurred the 12th, at ten P. M.; awakened, thought she was bleeding to death; almost incessant, but freer during each pain; amount excessive, had soaked through sheet, feather-bed, straw mattress and running several feet on the floor by half-past eleven P. M.
45	Horner, J. G., Lanesville.....	Aug. 28, 1868	A. C. D...	44	Twelfth..	One slight hemorrhage at close of seventh month; no more until labor, at full term, when profuse for a few minutes.
46	Jones, T. B., Lynnville.........	Mar. 18, 1869.	N. F......	...	Fifth......	Beginning of sixth month, twenty ounces; again at seven and a half months; at completion of eighth month, recurring every week, but not severe any time; fainted sev'l times.
47	Kay, Robert, Greenville......	May —, 1861.	C. B.......	38	Ninth.....	At full term; found her flooding terribly.
48	Kay, Robert........................	Feb. 10, 1875.	M. E. M..	32	Seventh..	Often during the last few months, and reported as free.

PRESENTATION OF PLACENTA.	PRESENTATION OF CHILD.	TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.	REMARKS.
Complete....	Vertex...	Tampon imperfectly applied and of no service; os dilatable; without resistance passed hand under edge of placenta and turned.	Recov.....	Dead ..	
Partial........	Head......	I did nothing but assist in the dilatation of the os with my fingers, and ruptured membranes at an early stage of labor.	Recov.....	Living	Occurred about thirty or thirty-five years ago; my memory is too dim to give a more satisfactory history.
Partial........	Head......		Recov.....	Living	
Partial........	Vertex...	Detached placenta as far as fingers would reach; plugged vagina; in two hours removed tampon; with hand in vagina and by external manipulations was enabled to seize foot, with two fingers through the os, which I drew down; acting as a plug, stopped hemorrhage, thence treated as a footling.	Recov.....	Living	
Partial........	Face......	Punctured membranes and gave ergot; after head well engaged, the bleeding stopped.	Recov.....	Living	
....	Natural..	Os would admit only one finger—firm, rigid and not dilatable; high in the pelvis; cool drinks, cold applications, quiet, ergot, elevation of foot of bed, insertion of lint with persulph. iron, rectal injections of cold water, etc.	Died at 8 A. M. of 13th.	....	Two physicians arrived at six A. M., who decided that forceps could not be used, nor version resorted to because of high position of uterus and rigidity of the os uteri.
Complete....	Vertex...	Hemorrhage with first pain, which ruptured membranes and detached placenta; no further pains or hemorrhages; eight hours afterwards, I removed placenta, turned and delivered.	Recov.....	Dead ..	
Complete....	Face......	Detached placenta at side, introduced hand, brought down feet and delivered immediately; alcoholic stimulants and ergot.	Recov.....	Living	
Complete....	Head......	Found placenta filling the os; gave ergot; removed placenta; hemorrhage ceased and delivered in thirty minutes.	Recov.....	Living	
Complete....	....	Os rigid, could admit but one finger; ergot and cold applications; endeavored to detach and remove placenta; but could not succeed.	Died undelivered, 6 hrs. after labor set in.	....	

NO. OF CASE.	NAME AND ADDRESS OF REPORTER.	DATE OF CONFINEMENT.	INITIALS OF PATIENT.	AGE.	NUMBER OF PREGNANCY.	TIME OF PREGNANCY WHEN HEMORRHAGE COMMENCED, WITH AMOUNT AND FREQUENCY OF RECURRENCE.
49	Kemper, G. W. H., Muncie..	June 7, 1874..	N. B......	22	Third.....	First hemorrhage was June 4, characterized as a severe one.
50	King, E. W., Galena............	Feb. 7, 1879..	L. E	44	Seventh.	At seventh week, and light hemorrhage for three months; at seven months; at eight months, and at labor at eight and a half months, quite freely.
51	Knapp, Chas., Ferdinand.....	Apr. —, 1875.	Mrs. I....	30	Seventh.	At full term; called fifteen hours after sudden and severe hemorrhage; found her almost bloodless.
52	Malone, D. R., Edinburg......	Sept. —, 1862	E. J.......	24	Third.....	About the seventh month; slight attacks and gradually increasing in quantity and frequency until first week, ninth month, when it was fearful for a short time.
53	Mathes, J. M., Carlisle.........	Aug. 27, 1876	S. D.......	22	Second...	In the seventh month; was very profuse, until delivered, next day.
54	Mauck, J. R., E. Germantown	May 5, 1876..	E. L	24	Second...	Full term; twelve hours before delivery, showed signs of syncope.
55	Mauck, J. R	Dec. 17, 1877.	M. J. W..	36	Sixth.....	At three months; slightly for five days, and returned every month until full term; when called, I found her pulseless and extremities cold.
56	Mavity, J. S., Fowlers.........	Dec. 12, 1876	M. M......	...	Sixth.....	At full term, suddenly and severe.
57	Maxwell, S. C., Remington...	Autumn, '69	Mrs. E...	...	Seventh..	At eight months; repeated in two weeks, again in ten days, when delivered; at each time copious.
58	Maxwell, S. C......................	Aug. —, 1874	Mrs. M...	...	Fourth...	At seven and a half months, again in four weeks, when delivered; slight first time, but second very excessive.
59	Maxwell, S. C......................	Dec. —, 1876	Mrs. T...	...	Fifth.....	At six and a half months and delivered; fearful in amount.

PRESENTATION OF PLACENTA.	PRESENTATION OF CHILD.	TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.	REMARKS.
Partial........	Vertex...	First a tampon, until os well dilated; ergot; head coming down arrested all hemorrhage; labor soon terminated.	Recov.....	Living	
Partial........	Vertex...	Induced contraction by pressure on abdomen and dilatation of os with fingers; ruptured membranes; head came down, arresting all hemorrhage.	Recov.....	Living	Examination of placenta showed membranes ruptured through placenta about two inches from margin.
Complete....	Vertex...	The child being dead, placenta almost separated, I removed it and then the child.	Recov.....	Dead....	
Complete....	Head......	Found os soft and dilatable; gave oil erigeron; detached and removed placenta; pains good; the head soon entered the os, where it acted as an efficient plug.	Recov.....	Dead....	
Partial........	Head......	Used ergot, which soon produced active pains, dilated the os, ruptured membranes, and brought head well down into os, when hemorrhage ceased.	Recov.....	Dead....	On day previous had intense pain in one mamma, which was hot, tense, swollen to three or four times its ordinary size; high fever not preceded by chill; all left when hemorrhage occurred.
Partial........	Vertex...	Resorted to podalic version, and delivered in a few minutes.	Recov.....	Living	
Complete....	Head......	Os being well dilated, proceeded to turn and deliver as rapidly as consistent.	Died.......	Dead....	Mother died in ten minutes; had virtually bled to death before I saw her.
Partial........	Arm.......	Found os not dilated; I applied tampon, which stopped hemorrhage, but pains continued twelve or eighteen hours; removed tampon, os open, delivered by podalic version with great difficulty, contractions being so strong.	Died.......	Dead....	
Partial........	Vertex...	When I arrived hemorrhage had been arrested by head pressing into os; stimulants and ergot.	Recov.....	Living	
Partial........	Vertex...	Delivered with forceps without delay; tonics and supporting treatment following delivery.	Died.......	Dead....	Mother died on third day.
Complete....	Vertex...	Hand introduced through center of placenta, ergot freely, and delivered at once by podalic version.	Recov.....	Dead....	

NO. OF CASE.	NAME AND ADDRESS OF REPORTER.	DATE OF CONFINEMENT.	INITIALS OF PATIENT.	AGE.	NUMBER OF PREGNANCY.	TIME OF PREGNANCY WHEN HEMORRHAGE COMMENCED, WITH AMOUNT AND FREQUENCY OF RECURRENCE.
60	Mears, G. W., Indianapolis...	——, 1869......	....	...	....	When seen was much exhausted from loss of blood; not an ounce lost after tampon applied.
61	Mears, G. W........................	Mar. 10, 1872	J. S........	25	Second...	Soon after labor began; flooding excessive.
62	Mears, G. W........................	....	C. K......	41	Seventh.	Slight hemorrhage for nearly a month before full term, when, however, it was alarming.
63	Mears, G. W........................	Feb. 5, 1871..	S. A.......	22	Mult......	Hemorrhage profuse, pulse weak and pains suspended.
64	Medcalf, A. F., Dale............	July 26, 1876.	J. W......	38	Eleventh	Near the end of seventh month recurring every two weeks slight. At eight and a half months, alarming and continued more or less every day till full time.
65	Minesinger, H. M., Sulphur Springs............................	May 5, 1878..	M. B......	26	Fourth...	End of eighth month and every two weeks; slight at first, free and continuous at labor; pulseless, fainting, almost exsanguinated when I saw her.
66	Mitchell, J. D., Terre Haute	Jan. 10, 1858.	M...........	36	Fourth...	About the seventh month; at beginning of labor profuse.
67	Mitchell, J. D........................	Nov. 20, 1876	S............	26	Second...	At full term and first sign of labor, profuse.
68	Mitchell, J. S., Alfordsville..	Apr. 10, 1861	Mrs. M...	31	Fifth	Full term; average three centiliters at each pain.

PRESENTATION OF PLACENTA.	PRESENTATION OF CHILD.	TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.	REMARKS.
....	....	Partial dilatation of os, the tampon (thoroughly packing vagina) applied and a T bandage; ergot administered; four hours after tampon, placenta and child were delivered.	Recov.....	Living	In the practice of Dr. Bigelow, reported in "State Transactions," 1878, page 106.
....	Head......	Applied tampon; forced away in four hours with placenta by head of child.	Recov.....	Living	In the practice of Dr. Newcomer, and reported in the "State Transactions" for 1878, page 107.
Partial........	———	Used endoscope and placed ~~sponge saturated~~ with per-sulph. iron upon the os, thoroughly packed vagina and applied T bandage; delivered in three hours.	Recov.....	Living	
....	....	Os very slightly dilated; tampon of cotton, saturated with per-sulph. iron, through speculum, and thoroughly packing vagina, upon this T bandage; eighteen hours after, all expelled without flooding.	Recov. ...	Living	In practice of Dr. Harvey, and reported in "State Transactions," 1878, page 107.
Partial........	Vertex...	Tampon until os was fully dilated; ergot freely; hemorrhage ceased from pressure of head against the parts; delivery very quick after that.	Recov.....	Living	
Partial........	Vertex...	Gave ergot and wine; removed tampon of rags and cotton; drew off three and three-quarter pints urine; performed podalic version; womb contracted promptly.	Recov.....	Living	I saw the patient after she had been in labor thirty-three hours; in charge of physio-medical friend, waiting for pains.
Partial........	Vertex...	When first seen, hemorrhage slight; pains good; well advanced; expected termination soon, but labor pains ceased; hemorrhage profuse; delivery with forceps.	Died	Dead...	Mother died in one hour, from exhaustion.
Partial........	Vertex...	Os dilated, introduced cotton plug saturated with per-sulph. iron against the os, and tamponed vagina; hemorrhage ceased; labor progressed rapidly; pushing all together.	Recov.....	Living	
Complete....	Vertex...	Rest, horizontal position; ergot, alternated with plumb. acet., cold applications; turning was attempted but failed; placenta expelled two hours before case terminated.	Died undelivered.	....	Eight hours after labor began she died.

NO. OF CASE.	NAME AND ADDRESS OF REPORTER.	DATE OF CONFINEMENT.	INITIALS OF PATIENT.	AGE.	NUMBER OF PREGNANCY.	TIME OF PREGNANCY WHEN HEMORRHAGE COMMENCED, WITH AMOUNT AND FREQUENCY OF RECURRENCE.
69	Parvin, Theo., Indianapolis..	....	Mrs. K...	...	First......	At seven months; quite copious; recurred occasionally and moderately during the succeeding two weeks, when another and larger flow took place; delivered soon afterwards.
70	Province, W. M., Franklin...	June 29, 1878	S. E.......	23	Second...	At full term; profuse until placenta was expelled.
71	Reynolds, J. H., Wirt..........	Dec. —, 1849	M. A. S..	40	Ninth....	Eight or ten days previous to nine full months, profuse.
72	Reynolds, J. H.....................	May 10, 1857	M. Mc....	46	Sixt'nth.	Full period; profuse.
73	Reynolds, J. H.....................	July 26, 1871	Mrs. H...	35	Seventh..	Within a week of full period; delivered in a few hours.
74	Rosenthal, I. M., Ft. Wayne	Sept. 6, 1870..	C. S........	36	Third.....	Seventh month; patient very feeble.
75	Rosenthal, I. M.....................	Sept. 6, 1870..	I. H.......	40	Mult......	Do not know.
76	Rosenthal, I. M.....................	Nov. 30, 1871	P. K......	38	Mult......	Full term.
77	Rosenthal, I. M.....................	Dec. 5, 1872..	B. R......	21	First.....	About seventh month and frequently thereafter; not profuse.
78	Rosenthal, I. M.....................	Apr. 27, 1873.	J. R. F...	30	Fourth...	Seventh month and several times thereafter; at full term profuse; prostration extreme.
79	Rosenthal, I. M.....................	June 20, 1878	M. K......	30	Fourth...	Profuse at seventh month, less at seven and a half, alarming at full term, apparently dying.
80	Schell, Isaac N., Frankton...	June 21, 1874	J. H	22	Second...	At the end of sixth month, recurred every ten or twenty days until term; moderately great hemorrhage.
81	Sloan, John, New Albany....	—, 1846......	Mrs. G...	23	Second...	Eight months and delivered; hemorrhage profuse.
82	Sloan, John..........................	June 25, 1869	J. B.......	35	Mult......	Often and severe during the sixth and seventh month.

PRESENTATION OF PLACENTA.	PRESENTATION OF CHILD.	TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.	REMARKS.
Complete....	Vertex...	Induction of premature delivery at seven and a half months; dilatation of os effected by Molesworth's dilators to five centimeters in diameter in three hours, when regular uterine contractions occurred; ruptured membranes; in two and a half hours head well down; completed labor with forceps.	Recov.....	Living	A battledore placenta and measuring twenty-seven centimeters one direction and twelve and a half transversely. Reported in "Am. Practitioner," March, 1875, vol. XI, page 150.
Complete....	Shoulder	After the afterbirth was removed, the child was delivered by turning by the feet.	Recov.....	Dead...	
Complete....	Natural..	Administered strong whisky toddy and without hesitation pushed aside the presenting placenta, turned the child and delivered promptly. This was the treatment in all three cases.	Recov.....	Living	
Complete....	Natural..		Recov.....	Living	
Complete....	Natural..		Recov.....	Living	
Complete....	Head......	Podalic version and delivery at seventh month.	Recov.....	Dead...	
Complete....	Head......	None; was seen by a physician forty-eight hours previously, who advised patience.	Died......	Dead...	Mother died before my arrival; delivered after death.
Partial........	Head......	Tampon; child expelled in twelve hours.	Recov.....	Living	Child died two days afterwards, of deformities.
Partial........	Head......	Rest; mur. tinct. iron, acid drinks, etc.	Recov.....	Dead...	Funis prolapsed.
Complete....	Head......	Earlier hemorrhages arrested by tampon; at labor os fully dilated; gave brandy; delivered by podalic version.	Recov.....	Living	
Complete....	Head	Called thirty-six hours after labor commenced; attempted version, almost proved fatal; after brandy four hours, gave ether, turned and delivered.	Recov.....	Dead...	
Complete....	Head......	Detached the placenta and delivered with forceps; no hemorrhage after separation of placenta.	Recov.....	Living	Child died second day after birth, of convulsions.
Complete....	Vertex...	Separated placenta at side, ruptured membranes; delivered in less than thirty minutes.	Recov.....	Living	
Complete....	Head......	Induction of premature delivery near end of seventh month; dilatation of os by fingers; under anesthesia turned and delivered.	Recov.....	Living	

NO. OF CASE.	NAME AND ADDRESS OF REPORTER.	DATE OF CONFINEMENT.	INITIALS OF PATIENT.	AGE.	NUMBER OF PREGNANCY.	TIME OF PREGNANCY WHEN HEMORRHAGE COMMENCED, WITH AMOUNT AND FREQUENCY OF RECURRENCE.
83	Stevenson, G. A., Rising Sun	——, 1870......	P. B......	42	Ninth....	Full term.
84	Sutton, George, Aurora........	....	Mrs. B...	40	Sixth.....	....
85	Sutton, George......................	....	R. S.......	37	Fifth......	Flooding profusely; pulse small and feeble; much exhausted.
86	Sutton, George......................	....	Mrs. A...	37	Fifth......	Several weeks previous to full term; at term profuse.
87	Sutton, George......................	Sept. 5, 1867..	Mrs. B...	30	Second...	Found the woman with hemorrhage profuse and alarming; no pains, pale and exhausted.
88	Sutton, George......................	Nov. —, 1877.	Mrs. N...	28	First......	About one week previous to delivery; lost considerable blood.
89	Sutton, George......................	June —, 1862	J. A	...	Second...	Had sudden, frequent and alarming hemorrhages for past two months.
90	Sutton, George......................	....	....	...	....	At the time of labor there was severe hemorrhage.
91	Sutton, George......................	July 15, 1865.	Mrs. H...	...	Fifth.....	Found her greatly exhausted and repeated syncope.
92	Sutton, George......................	Oct. 23, ——.	Mrs. L...	30	Third.....	Slight attacks at close of eighth month; within a few days of full term flooding considerable.
93	Sutton, George......................	Dec. 21, 1863.	J. O........	...	Mult......	At sixth or seventh month and at intervals until full term, when free and profuse.
94	Sutton, George......................	Mar. 6, ——..	Mrs. V...	30	Third.....	Few days before delivery and severe.

PRESENTATION OF PLACENTA.	PRESENTATION OF CHILD.	TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.	REMARKS.
Complete....	Head.....	Turned the child and delivered.	Died......	Dead...	For several years had severe chronic pulmonary disease.
....	....	Found the os slightly dilated, but rigid; applied tampon; in thirteen hours stronger pains came on, forcing away tampon and a large amount of coagulated blood; she sank rapidly.	Died undelivered.	....	In consultation with Dr. A. B. Haines. The following thirteen cases are reported in "State Transactions" for 1878, pages 121-128.
Complete....	....	Os soft and dilatable; fingers between placenta and uterus ruptured membranes, and version easily effected; hemorrhage ceased when hips passed os.	Recov....	Living	
Complete....	....	Os dilated to about size of quarter dollar, firm and rigid; dilated os with fingers and conical tampon; passed hand, ruptured membranes and brought down feet; with hips in cervix, hemorrhage ceased.	Recov.....	Living	
Partial........	....	Os more than half dilated; no difficulty in turning and bringing down feet, when hemorrhage ceased.	Recov.....	Dead...	In consultation with Dr. Joseph Lamb.
Partial........	Head.....	Os soft and dilatable; ruptured membranes and head came down, arresting hemorrhage; delivered in twelve hours.	Recov.....	Living	
Complete....	....	Perforated placenta, introduced hand, turned and brought down the feet.	Recov.....	Living	In the practice of Dr. C. B. Miller.
Partial........	Shoulder	Succeeded in turning and bringing down the feet.	Recov.....	Living	
Complete....	....	Os sufficiently dilated to introduce hand, perforate placenta and speedily terminate delivery by the feet.	Died......	Dead...	Mother died in thirty minutes from slight post partum hemorrhage. In practice of Dr. M. Harding.
Complete....	....	Os very slightly dilated, firm and rigid, pains weak; used tampon; flooding ceased six hours, returned profusely; tampon again; three hours afterward turned and delivered.	Died......	Dead...	Mother died "very shortly afterwards." In practice of Dr. A. B. Haines.
Complete....	....	Os quite well dilated; fingers in os detaching placenta brought on pains, delivery soon followed; but little hemorrhage.	Died......	....	In practice of Dr. R. C. Bond; mother died in four or five days—never rallied.
Complete....	Head.....	Os slightly dilated; without much resistance performed podalic version.	Recov.....	Dead...	In practice of Dr. T. M. Kyle.

NO. OF CASE.	NAME AND ADDRESS OF REPORTER.	DATE OF CONFINEMENT.	INITIALS OF PATIENT.	AGE.	NUMBER OF PREGNANCY.	TIME OF PREGNANCY WHEN HEMORRHAGE COMMENCED, WITH AMOUNT AND FREQUENCY OF RECURRENCE.
95	Sutton, George	Jan. 3, 1870.	Mrs. S...	34	Fifth	In seventh month; moderately profuse; at full term very profuse.
96	Sutton, George	Nov. 13, 1876	N. R	30	Third	At full term; had been in very ill health for three months; not much hemorrhage, external previous to and but slight during labor, but she seemed to gradually sink from the first.
97	Thomas, Mary F., Richmond	July 9, 1877.	E. H	23	First	About beginning of ninth month, returned every week; three days before labor very profuse.
98	Thompson, J. J., Sullivan	May —, 1858.	J. M	23	First	At completion of eighth month; flooding badly fourteen hours before I was called; found her *in articulo mortis.*
99	Thompson, J. J	Mar. 28, 1865.	M. M	32	Sixth	Something over eight months, again in seven days, and in three days, every time profuse.
100	Tilford, Salem A., Martinsville	Jan. 24, 1877.	Mrs. P...	30	Fourth	About eight months; every two or three days, for three weeks, when delivered; not excessive until last.
101	VanVorhis, F. J., Indianapolis	——, 1873	L. W	...	Third	More or less at intervals during pregnancy; had called nophysician; blood running in a torrent when I saw her.
102	Walker, G. B., Evansville	Feb. 4, 1853.	M. R	40	Mult	For two or three months; not alarming until now.
103	Walker, G. B	July 5, 1853.	German.	43	....	In beginning of ninth month, with considerable flooding; delivered at that time.
104	Walker, G. B	Aug. —, 1854	German.	45	....	At eight and a half months; under the care of an ignorant midwife four days; lost a large quantity of blood; appeared almost bloodless; *in articulo mortis;* uterine contractions feeble.
105	Walker, G. B	Sept. 9, 1863.	Mrs. S...	26	Third	Frequent floodings during the last two months, and lost a great deal during labor.

PRESENTATION OF PLACENTA.	PRESENTATION OF CHILD.	TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.	REMARKS.
Complete....	....	Os well dilated; introduced hand and brought breech into pelvis, when the blood ceased to flow.	Recov.....	Dead...	In practice of Dr. H. C. Vincent.
Complete....	....	Slight dilatation of os; unyielding for six hours (efforts to introduce hand fruitless), when there was sudden relaxation and softening of os; immediately ruptured placenta, turned and delivered; when cavity of uterus reached, found a large amount of clotted blood.	Died	....	In practice of Dr. F. M. Pollett; mother died in a few moments after delivery.
Complete....	Head......	Dilated the os; introduced hand and brought down feet; delivered with difficulty, pelvis being small; stimulants, restoratives and ergot.	Recov.....	Dead...	
Complete....	Vertex...	Had taken "medicine that never failed to stop flooding," and "was bled freely by the so-called doctor in charge."	Died undelivered.	....	
Complete....	Head......	Os dilated; proceeded to turn and deliver; did well until third day: violent chill, high fever, grew worse until ninth day.	Died	Dead...	In this vicinity that year all diseases were of an extremely malignant type.
Complete....	....	Os soft and dilatable; hand passed through placenta; delivered by the feet.	Recov.....	Dead...	Alarming post partum hemorrhage until placenta delivered.
Complete....	Vertex...	Without hesitation inserted hand, turned and delivered.	Died	Dead...	Mother died in one week from asthenia.
Complete....	Head......	Os open but rigid; introduced hand, seized foot and delivery completed within thirty minutes.	Recov.....	Dead...	These six cases of Dr. Walker's were reported in a paper, "Observations in Practice, Surgery, Gynecology and especially Obstetrics," read before the Ind., Ills. and Ky. Tri-State Med. Society, in Evansville, October 17, 1877.
Complete....	....	Os dilated and relaxed; without difficulty hand entered, foot seized and delivery completed.	Recov.....	Living.	
Complete....	....	Hand introduced, placenta disturbed as little as possible, feet secured and brought down; delivered within ten minutes.	Died	Dead...	Mother died two days after delivery; never rallied; child had been dead some days.
Complete....	....	Ergot, followed by slight labor pains; eighteen hours afterwards delivered by podalic version without difficulty, and but little hemorrhage.	Died	Dead...	Mother died from exhaustion two hours after delivery.

NO. OF CASE.	NAME AND ADDRESS OF REPORTER.	DATE OF CONFINEMENT.	INITIALS OF PATIENT.	AGE.	NUMBER OF PREGNANCY.	TIME OF PREGNANCY WHEN HEMORRHAGE COMMENCED, WITH AMOUNT AND FREQUENCY OF RECURRENCE.
106	Walker, G. B..........................	Apr. 12, 1865	Mc. K....	37	Mult......	At six and a half months and moderately for a few days, when delivered.
107	Walker, G. B..........................	May 26, 1872.	Mrs. G...	30	Third.....	Repeated floodings for a month; was considerably exhausted and feverish.
108	Walters, R. D., Leipsic.........	——, 1849......	Mrs. L...	25	Fourth...	About eighth month; great hemorrhage at every pain.
109	Waterman, L. D., Indianapolis...................................	May 29, 1876.	F. J. H...	...	....	About close of seventh month; slight, recurring every six or eight days, until close of eighth month, when delivered.
110	Weever, J. B., Mt. Vernon...	Sept. 18, 1878	Mrs. B...	20	First......	Between six and seven months; quite freely, recurring often for nine days, when delivered.
111	Weddington, S. C., Jonesboro	Apr. 15, 1876.	Mrs. W..	34	Fifth......	About eight months; recurred once a week; delivered at eight and a half months; hemorrhage profuse.
112	Weist, J. R., Richmond.......	Apr. 15, 1878.	C. T.......	22	First......	At end of sixth month free; recurred every few days until delivered at end of seventh, when there was most dangerous hemorrhage.
	(1)Cook, Ward, Pendleton......	May 2, 1879...	A. C......	30	Third.....	About the seventh month and every two or three weeks; moderate.

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(1) This report was received after I had made up the principal part of my paper, hence could not include it where it belongs—in the tampon cases.

PRESENTATION OF PLACENTA.	PRESENTATION OF CHILD.	TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.	REMARKS.
Complete....	....	Hand passed through cervix after overcoming considerable resistance, seized the feet and delivered.	Recov.....	Living	Child died after a short period.
Complete....	....	Os open to size of a silver dollar, and soft; hand passed by moderate pressure; foot seized and delivery completed.	Recov.....	Living	
Complete....	Face......	Hastened delivery, and used quinine and ergot.	Recov.....	Dead ...	
Complete....	Vertex...	For seven days used tannin on cotton tampon to cervix; quietude; morph. and ergot in small doses; delivered while slightly narcotized, while I was temporarily absent.	Recov.....	Died....	Child gasped, but further contractions expelling placenta, child was not restorable when I arrived thirty minutes after birth.
Complete....	Footling	Three days prior to delivery, applied tampon with sub. sulp. iron; when os fully dilated peeled placenta from attachments and delivered child to hips, when all hemorrhage ceased.	Recov.....	Dead...	
Partial........	Vertex...	Os but little dilated; gave ergot and used tampon two hours; hemorrhage increasing, introduced hand, turned and delivered.	Recov.....	Living	Reported in "State Transactions" for 1877, page 119.
Complete....	Vertex...	Tampon arrested hemorrhage five hours; again applied three hours; os dilatable; introduced hand, separating placenta; delivered by feet.	Recov.. ..	Dead ...	
Partial........	Vertex...	Pains trifling and labor slow; as os dilated hemorrhage increased; tampon thro' speculum, after the manner of Dr. Mears, which checked hemorrhage; head got in the excavation; there was no further flow.	Recov.....	Living	After persevering in artificial respiration, etc. "After placenta extracted, it was easy to see the edge that presented over the os uteri."

In order to have ascertained, even approximately, the frequency of occurrence of placenta previa, I might have requested in my circular a statement of the number of cases of obstetrics attended, and thus ascertained the proportion of cases in which the placenta was implanted over the os uteri, but after considering that very few physicians keep any record of their obstetrical practice, and those who did not would reasonably estimate their experience to be larger than it actually had been, my statistics would be fallacious on that point.

I have received reports of several cases in which abortion occurred, earlier than the seventh month, but as they had no practical bearing on the statistics, I have omitted them. Several physicians mention having met with cases of partial presentation, but as they were not serious and did not require any special treatment, they have omitted to report them, unfortunately, because nature should be our guide, and we may have learned a lesson from them.

We will now take up the study of these cases in the aggregate, and see how well they compare with other published tables and also what inference we may draw from them.

Age. In this table we have the age reported in eighty-three cases, as follows:

AGE.	NO. OF CASES.	PER CENT.
Under 20 years	2	2.41
From 21 to 25 inclusive	17	20.48
From 26 to 30 inclusive	18	21.69
From 31 to 35 inclusive	17	20.48
From 36 to 40 inclusive	19	22.89
From 41 to 45 inclusive	9	10.84
From 46 to 50 inclusive	1	1.21
	83	100.00

The above substantially agrees with the statistics of Trask, who found more cases occurring at the age of forty years; and for the ages from thirty-six to forty inclusive, his collection gives 26.23 per cent. of all in which the age was given.

The pregnancy at which the placenta was previa, occurred as follows:

	NO. OF CASES.	PER CENT.
First pregnancy	9	9.89
Second pregnancy	17	18.68
Third pregnancy	14	15.39
Fourth pregnancy	12	13.19
Fifth pregnancy	13	14.29
Sixth pregnancy	9	9.89
Seventh pregnancy	8	8.78
Eighth pregnancy	2	2.20
Ninth pregnancy	3	3.29
Eleventh pregnancy	2	2.20
Twelfth pregnancy	1	1.10
Sixteenth pregnancy	1	1.10
	91	100.00

In Simpson's table a larger number of cases occurred in the third pregnancy (15.38 per cent.); while in Trask's collection 19.75 per cent. occurred in the second, which is near the same proportion as in this table. Playfair,[1] in speaking of the causes of placenta previa, remarks that it "more generally occurs in women who have borne several children." This is not in accord with the statistics above referred to, and hence, to some extent, invalidates his theory as to the cause of placenta previa.

The time of pregnancy when hemorrhage commenced:

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(1) Syst. of Midwifery, 1st ed., page 359.

	NO. OF CASES.	PER CENT.
Before sixth month	3	3.57
During sixth month	7	8.33
During seventh month	27	32.14
During eighth month	13	15.48
During ninth month	19	22.62
At full term	15	17.86
	84	100.00

No table to which I have access has considered this question statistically; but most all writers agree that hemorrhage will occur in a majority of the cases before full term. Burns[1] says, "in the end of the seventh month and course of the eighth, though sometimes not till near the usual termination of labor." Rigby[2] says, "although in by far the majority of these cases it does not come on until the last four or six weeks, it now and then occurs at a much earlier period," and refers to a case in which hemorrhage came on "when the patient was about three months gone with child." Cases fifty, fifty-five and one hundred and one are similar. Barnes[3] claims that "at any time during the course of pregnancy hemorrhage from this cause is apt to take place, and after the fifth month the woman may be overtaken without warning by a smart flooding." The cases given in this collection show that after the sixth month the danger is imminent at any moment, and there is no immunity from hemorrhage prior to that time, many cases of abortion perhaps being due to the mal-presentation of the placenta not recognized. I have received reports of several cases in which miscarriage resulted from the placenta being over the os internum—reports not included in this table for reasons heretofore given.

If the hemorrhage in placenta previa is thus liable to occur at any time during the course of pregnancy, does it not invalidate many of the theories as to the cause of the hemorrhage? It is generally admitted that the hemorrhage is a result of separa-

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(1) Princip. of Mid., page 169.

(2) Syst. of Mid., page 405.

(3) Obstetric Operations, page 369.

tion of the placenta from the uterine walls; but what causes that separation is what we wish to inquire. Churchill[1] says, "it is the necessary consequence of the dilatation of the os uteri by which the connection between the placenta and uterus is separated," which is consistent with another statement that the first discharge is usually about three weeks before labor commences;[2] but neither statement accords with the facts shown in this table, and the inference that we might justly draw from other statistical collections, that the hemorrhage is more liable to come on at seven months and may appear at any time during utero-gestation.

The theory of Jacquemier, which has been accepted by Cazeaux and others, maintains that "during the first six months of utero-gestation, the superior portion of the uterus is more especially developed," and that "during the last three months of pregnancy the lower segment of the uterus develops more than the upper while the placenta remains nearly stationary in size, the inevitable result being a loss of proportion between the cervix and placenta and detachment of the latter."[3] Barnes[4] gives a theory that the hemorrhage "arises from an excess in rate of growth of the placenta over that of the cervix, hence loss of relation." But these theories are also defective; as Playfair says,[5] they are not "readily reconcilable with the fact that hemorrhage frequently does not begin until labor has commenced at term." In this collection 17.86 per cent. of the cases are reported as hemorrhage commencing at full term, while it is presumable that many of the cases in which this point is not stated were at or near full period. After considering the causes as explained by various writers, Playfair says,[6] "Uterine contractions are constantly occurring during the continuance of pregnancy. This has been conclusively shown by Braxton Hicks, and any one can readily ascertain the fact by keeping his hand for a few minutes on a pregnant uterus. There is no reason to suppose that these contractions do not affect the cervical as well as the fundal portions of the uterus, and it is

(1) Syst. of Mid., page 436.

(2) Syst. of Mid., page 437.

(3) Playfair's Sys. of Mid., page 362.

(4) Obstetric Operations, page 358.

(5) Sys. of Mid., page 362.

(6) Sys. of Mid., page 363.

easy to understand how, in cases in which the placenta is situated partially or entirely over the os, one or more stronger contractions than usual may at any moment produce laceration of the placental attachments in that neighborhood."

Whichever may be the true theory, our cases are more consistent with the thought uttered by Playfair, that its primitive cause is uterine contraction, for on no other theory can we explain the fact that hemorrhage will occur so nearly equally in the last three months of pregnancy, and also that it is a frequent cause of abortion, as has been almost universally admitted by writers on the subject.

It is difficult to interpret the expressions of the reporters as to the amount of hemorrhage and classify them, but I have arranged them for the sake of reference as follows, and have endeavored not to err on the side of exaggeration:

AMOUNT OF HEMORRHAGE.	NO. OF CASES.	PER CENT.
Small	5	5.15
Moderate	30	30.95
Profuse	62	63.92
	97	100.00

In fifty-six cases the hemorrhage is noted as having recurred. In thirty-six cases it did not recur, agreeing with the generally accepted belief that two or more hemorrhages precede delivery in most cases.

Placental presentation has been reported as follows:

	NO. OF CASES.	PER CENT.
Partial	28	26.42
Complete	78	73.58
	106	100.00

Trask's table shows that of the whole number of cases in which the placental presentation was given, sixty-six per cent. was complete, while in this collection we have seventy-three per cent. noted as complete.

To class a case as one of partial or complete presentation of the placenta is not always easy, as it is a question of degree in which there is no line of demarkation over which it is the one, or short of which it is the other. If the os uteri internum remains closed until opened by the uterine contractions, and the placenta is attached over the lower segment of the uterus, it is impossible for it to be other than complete, but when dilatation of the os has separated the attachments, and one margin of the placenta can be recognized within the os, then we have a partial presentation; or, in other words, in relation to the os uteri internum before the commencement of labor, it is complete, but in relation to the os when dilated as it is in labor, it may be only partial.

The degree of presentation may be ascertained with remarkable precision by an examination of the placenta after its delivery. Levret, Von Ritgen and Carmichael are cited by Barnes[1] as having called attention to this fact, yet few writers have referred to it, and apparently none of the reporters in this paper have availed themselves of this method of ascertaining what had been the placental presentation. By observing the distance from the rent in the membranes through which the fetus has passed, to the margin of the placenta, you will have indicated the distance of the placental attachment from the os uteri. If the attachment of the placenta were over the os, the point at which the membranes were ruptured through the placenta, where that practice was followed, would indicate how near central the implantation had been. Where the rupture of the membranes had been at the margin of the placenta, that portion "which had been detached during labor is found infiltrated with extravasated blood, making a thick, firm and black flap, quite distinct in appearance from the rest of the placenta."[2] This condition was distinctly shown in case number

(1) Barnes' Obs. Oper., page 368.

(2) Barnes' Obs. Oper., page 368.

fifty, about one-third of the placenta presenting that appearance.

Presentation of the child was reported in eighty-five cases, as follows:

PRESENTATION.	NO. OF CASES.	PER CENT.
Head, including face	76	89.41
Breech, including footling	3	3.53
Shoulder, arm and other cross	6	7.06
	85	100.00

To compare those with Trask's or Simpson's table, we find a much larger per cent. of our cases are vertex presentations, than the per cent. in either of theirs. This may be explained, and I think reasonably, upon this supposition, that in the published cases, as in Simpson's or Trask's tables, any other than a head presentation would be mentioned, while that would not always be specified.

To analyze the treatment that is mentioned by the reporters and ascertain what was the principal remedy or method adopted, and relied upon because of the position of the placenta over the os uteri, and to arrive at just conclusions as to the value of each remedial agency, is a difficult task. To do so, and to facilitate our study of them, I have classified them in such a manner as to show what was the principal remedy or method adopted, the circumstances in each case which would have the greatest influence upon the results, and the measures that were made use of which might be considered as auxiliary treatment.

Circumstances of the cases virtually left to nature, or in which there was no treatment:

NO. OF CASE.	WHEN DELIVERED.	TIME FROM FIRST HEMORRHAGE UNTIL DELIVERY.	CHARACTER OF HEMORRHAGE.	PLACENTAL PRESENTATION.	RESULT TO MOTHER.	RESULT TO CHILD.
11	8 months.	Three weeks	Moderate	....	Recovered	Living.
27	8½ months.	Thirty hours	Small	Partial	Recovered	Living.
34	Term	Six weeks	Moderate	Complete	Recovered	Dead; prolapsed cord.
75	....	....	....	Complete	Died	Dead; delivered; post-mortem.
77	....	Seventh month	Moderate	Partial	Recovered	Dead; prolapsed cord.
93	Term	Three months	Profuse	Complete	Died	
98	8 months	Fourteen hours	Profuse	Complete	Died undeliver'd	

Seven cases, four mothers recovering and three dying; two children living, four dead and one the result not stated.

The mortality in these cases, to both mother and child, is much heavier than the average mortality in placenta previa under all circumstances. The fatality to the mother was undoubtedly due in every case to the position of the placenta and attending hemorrhage. In cases thirty-four and seventy-seven, the children may have died from the circulation being stopped by the prolapsus of the cord; but in the other fatal cases we can discover no other cause than the hemorrhage. In case eleven, the child is reported as having lived only a few hours; thus leaving only one child surviving out of the seven cases, a mortality that is too discouraging to ever allow us to leave a case of placenta previa to nature alone, unless very closely watched and ready to give assistance when required.

Cases in which ergot was the principal remedy used:

NO. OF CASE.	WHEN DELIVERED.	TIME FROM FIRST HEMORRHAGE UNTIL DELIVERY.	CHARACTER OF HEMORRHAGE.	PLACENTAL PRESENTATION.	AUXILIARY TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.
6	8½ mos.	24 hours	Profuse	Complete	Ruptured Membranes	Recovered	Dead.
7	28 weeks.	At once	Profuse	Partial	....	Recovered	Dead.
14	Term	2 months	Profuse	Complete	Forceps	Died	Dead.

NO. OF CASE.	WHEN DELIVERED.	TIME FROM FIRST HEMORRHAGE UNTIL DELIVERY.	CHARACTER OF HEMORRHAGE.	PLACENTAL PRESENTATION.	AUXILIARY TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.
36	Term	At once	Profuse	Complete		Died	Dead.
44	Term	2 weeks	Profuse		Tampon, etc.	Died undelivered	
48	Term	2 months	Profuse	Complete	Cold, styptics, etc.	Died undelivered	
53	6½ mos	1 day	Profuse	Partial	Ruptured Membranes	Recovered	Dead.
57	Term	24 days	Moderate	Partial	Stimulants	Recovered	Living.
108	7½ mos	At once	Moderate	Complete		Recovered	Dead.

Nine cases, five mothers recovering and four dying; one child living, six dead and two unborn; presenting a mortality to both mother and child far above the average. There is nothing in the reports of these cases to explain the mortality, other than the presentation of the placenta and the hemorrhage. In cases forty-four and forty-eight, the reporters speak of such rigidity of the os and other conditions that precluded the possibility of version or any other method of rapid delivery. Case seven, delivery occurred at an age early for viability of child.

It seems that the object in giving ergot in those cases was to secure more efficient contraction of the uterus. Trask quotes Ramsbotham as advising it, and especially in prostration and before proceeding to turn, and Murphy as saying that with a stimulant, as opium, it is good in preventing such hemorrhages; but in none of those cases was there great prostration reported, except in the two cases that died undelivered. Trask says that Dr. Fountain, of New York, informs him that in his practice he had met with two cases in which the os uteri was so firm, thick and unyielding that he deemed it not best to introduce the hand, but arrest the flooding till the os was in a more favorable condition. To secure a constant pressure on the placenta and thereby stop the flow mechanically, he gave a full dose of ergot and repeated it until the os was dilated and turning resorted to successfully in both cases.(1) In cases forty-

(1) **Trask's Essay, Trans. Am. Med. Ass., 1855, page 651.**

four and forty-eight ergot was used as indicated by Dr. Fountain's experience, but not with such a fortunate termination.

From the experience as reported in this collection, one would conclude that not much good could be expected from ergot, in cases of placenta previa, other than in a natural labor deficient in action.

Cases in which rupture of the membranes formed the principal reliance:

NO. OF CASE.	WHEN DELIVERED.	TIME FROM FIRST HEMORRHAGE UNTIL DELIVERY.	CHARACTER OF HEMORRHAGE.	PLACENTAL PRESENTATION.	AUXILIARY TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.
31	Term	3 weeks	Moderate	Complete...	Ergot, etc......	Recovered...........	Living.
40	....	....	....	Partial	....	Recovered............	Living.
41	....	....	....	Partial	....	Recovered............	Living.
43	Term	1 month.....	Profuse ..	Partial	Ergot, etc......	Recovered............	Living.
50	Term	Entire pregnancy	Moderate	Partial	....	Recovered............	Living.
81	8 months...	At once......	Profuse ..	Complete...	....	Recovered............	Living.
88	....	1 week	Moderate	Partial	....	Recovered............	Living.

Seven cases, none proving fatal to either mother or child.

Rupture of the membranes was first advised by Mariceau, or Puzos, as a means of assisting in the evacuation of the uterus in placenta previa. The method of Puzos consisted, as given by Miller,[1] in the introduction of "one or two fingers within the os uteri, which is to be gradually opened by the employment of force proportioned to its resistance. * * * * By this means the uterus is roused to action, labor pains come on and the membranes are rendered tense. The next object is to rupture the membranes without delay." From the reports in the above seven cases, such appears to have been the practice followed, and not the recommendation of Barnes,[2] that "the puncture of the membranes is the *first* thing to be done in all cases of flooding sufficient to cause anxiety before labor," or of Playfair in recommending it and depending upon *subsequent* dilatation of the os.

(1) Miller's Obstetrics, page 260. (2) Obstetric Operations, page 376.

The results in those seven cases are indeed encouraging, but the treatment alone would not be sufficient to give such a favorable result in every case of placenta previa, and I think we can safely explain the happy results here, in part, at least, by applying to them the statement made by Trask in regard to another class of cases, viz, that "as a class they are characterized by a tonicity of the womb and a vigor of uterine contraction which we do not find in ordinary cases of the accident."[1]

Cases in which the entire detachment of the placenta was the principal treatment adopted:

NO. OF CASE.	WHEN DELIVERED.	TIME FROM FIRST HEMORRHAGE UNTIL DELIVERY.	CHARACTER OF HEMORRHAGE.	PLACENTAL PRESENTATION.	AUXILIARY TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.
5	Term	1 month	Profuse	Complete	Instruments	Recovered	Dead.
8	30 weeks	1 week	Profuse	Complete	Ergot	Recovered	Dead.
9	7 months	3 days	Moderate	Complete	Ergot	Recovered	Dead.
17				Complete		Died undelivered	
30		At labor	Profuse	Complete	Ergot	Recovered	Dead.
47	Term	At labor	Moderate	Complete	Ergot	Recovered	Living.
51	Term	15 hours	Profuse	Complete		Recovered	Dead.
52	9 months	5 weeks	Profuse	Complete	Oil Erigeron	Recovered	Dead.
68	Term	At labor	Profuse	Complete	Ergot, etc.	Died undelivered	
80	Term	3 months	Moderate	Complete	Forceps	Recovered	Living.
110	7 months	9 days	Moderate	Complete	Tampon	Recovered	Dead.

Eleven cases, nine mothers recovering and two dying undelivered; two children living and nine dead.

Simpson was the first to emphatically call attention to the entire detachment of the placenta as a method of treatment in cases of placenta previa, but it was only under certain circumstances or conditions that he advised its performance, which may be thus briefly epitomized: When the child is dead or not viable; when turning can not be easily accomplished because of rigidity of the os uteri, or a firmly contracted uterus; the pelvic passages too small or the mother too much exhausted. He was first led to this treatment by observing that the placenta

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(1) Trask's Essay, Trans. Am. Med. Ass., page 663.

was sometimes spontaneously expelled before delivery of the child.

From the reports of cases seventeen, forty-seven, fifty-one and sixty-eight, the placenta in these cases was expelled spontaneously. Cases five, thirty and eighty come under one or the other of the conditions above specified. In cases eight and nine, the remarks of the reporter, as given in the tabulated report opposite the cases, are sufficiently clear and comprehensive.

In cases thirty-five, forty-five and seventy, the placenta was delivered before the child, but they are classed in other tables.

Taking into consideration the circumstances of these cases, the mortality as regards the mother, though not so light as Simpson's paper would show, yet, is not so high as the average mortality in placenta previa, and but little heavier as regards the child, than Simpson's collection. In six of the cases all hemorrhage is noted as having ceased after entire detachment of the placenta.

Cases in which the forceps were used as the principal reliance:

NO. OF CASE.	WHEN DELIVERED.	TIME FROM FIRST HEMORRHAGE UNTIL DELIVERY.	CHARACTER OF HEMORRHAGE.	PLACENTAL PRESENTATION.	AUXILIARY TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.
21	....	....	Small.....	Partial......	....	Recovered............	Living.
58	8½ mos.....	4 weeks.....	Moder'e..	Partial......	....	Died.....................	Dead.
66	Term	6 or 8 w'ks..	Profuse ..	Partial......	....	Died.....................	Dead.

Three cases, one mother recovering and two dying; one child living and two dead.

The forceps are not often recommended in placenta previa, for obvious reasons, unless some other character of dystocia is complicating the case. In the small experience given in this collection, the results, as shown above, are not very encouraging, especially if we examine closely the report of the only favorable case; and were we to examine all the cases in this table in which the forceps were used as an auxiliary measure of treatment, the mortality to both mother and child has been above the average.

Craniotomy is reported as having been resorted to in case twenty-three, after failure of the tampon to secure arrest of the hemorrhage, and the circumstances of the case showing "necessity for immediate action." The mother recovered.

Cases in which the tampon appears to have been the principal reliance:

NO. OF CASE.	WHEN DELIVERED.	TIME FROM FIRST HEMORRHAGE UNTIL DELIVERY.	CHARACTER OF HEMORRHAGE.	PLACENTAL PRESENTATION.	AUXILIARY TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.
15	8½ mos.	2 days	Profuse	Partial	Rup mem. dil. of os and forceps	Recovered	Dead.
18	Term	At once		Partial	Rup. memb.	Recovered	Dead.
19	Term	10 days		Partial		Recovered	Dead.
26	8½ mos.	6 weeks	Profuse	Complete	Ergot	Died	Dead.
35		1 month	Moderate	Complete	Del. of plac. and forceps.	Recovered	Living.
49		3 days	Moderate	Partial	Ergot	Recovered	Living.
60						Recovered	Living.
61		Short time	Profuse			Recovered	Living.
62		1 month	Profuse	Partial	Iron on tampon	Recovered	Living.
63			Profuse		Iron on tampon	Recovered	Living.
64	Term	2 months	Profuse	Partial	Ergot	Recovered	Living.
67	Term	At labor	Profuse	Partial	Iron on tampon	Recovered	Living.
76	Term			Partial		Recovered	Living.
84						Died undelivered	
109	8 mos.	1 month	Small	Complete	Tannin on tampon and ergot	Recovered	Dead.

Fifteen cases, thirteen mothers recovering and two dying—one undelivered; nine children living and six dead.

The original intention of Leroux, who first advised the use of the plug or tampon in placenta previa, is thus given in "Rigby's System of Midwifery:"[1] "If after the commencement of a

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(1) **Page 410.**

flooding, we favor the formation of a coagulum by means of a plug, are we not aiding nature?" It was not with the expectation of the tampon forming a coagulum in the vagina or cervix, as was the idea of Leroux, that it was used by the reporters in this collection, but that it should act mechanically and the cervix or vagina be completely plugged and packed, and thus restrain the hemorrhage until the os dilated or delivery was completed.

Barnes says[1] that after puncturing the membranes, if hemorrhage continues, "the os uteri being undilated the plug may be tried," and Playfair says,[2] after the evacuation of the liquor amnii it may be "specially serviceable." In nine of those cases it is specified that the tampon was applied before dilatation of the os and rupture of the membranes, and it is probable the same practice was followed in the other five cases. In one case only was the os uteri mentioned as being dilated when the tampon was applied, and in that there was strong uterine contractions and delivery speedily terminated.

In six of the cases the hemorrhage is reported as being small after the application of the tampon.

The mortality in those fifteen cases is less than the average to both mother and child, but is this lessened mortality to be altogether ascribed to the treatment pursued? The presentation of the placenta is noted in eleven cases—three as complete and eight partial. Less than half of the cases are noted as having had profuse hemorrhage, and in only two cases is the hemorrhage spoken of as having occurred more than a month prior to delivery, presenting, in these respects, conditions favorable, regardless of treatment. May not the remark of Trask, which we have applied to one class of cases, be to some extent also applicable to this?

The tampon to be effective should be correctly applied, and its failure in many instances might consistently be ascribed to its imperfect application. The method reported in cases sixty, sixty-one, sixty-two and sixty-three is worthy of attention and the success attending it encouraging.

Cases in which version was the principal treatment adopted:

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(1) **Obstetric Operations, page 376.** (2) **System of Midwifery, page 366.**

NO. OF CASE.	NO. OF PREGNANCY.	WHEN DELIVERED.	TIME FROM FIRST HEMORRHAGE UNTIL DELIVERY.	CHARACTER OF HEMORRHAGE.	PLACENTAL PRESENTATION.	AUXILIARY TREATMENT.	CONDITION OF PATIENT WHEN TURNING WAS PERFORMED.	CONDITION OF OS WHEN TURNING WAS PERFORMED.	RESULT TO MOTHER	RESULT TO CHILD.
1	Mult				Complete		Exhausted		Died	Living.
2	Fourth	7 months	2 months	Profuse	Complete	Tampon and prem. deliv.		Dil. of os easy	Died	Dead.
3	Mult	Term		Profuse	Complete		Much exhausted	Dilatable	Recovered	Living.
4	Seventh	Term	10 days	Profuse	Complete	Tampon	Much exhausted	Well dilated	Died	Living.
10	Sixth	Term	3 months	Small	Complete	Tampon			Recovered	Living.
12	First			Profuse	Complete	Tampon	But little distress	Dilatable	Died	
13	Second		At once		Complete				Recovered	Dead.
16	Sixth	Term	3 months	Moderate	Complete		Debilitated	Dilatable	Died	Living.
20	Mult		Sev'l mos.	Profuse	Complete		Hazardous		Recovered	Dead.
22	Sixth	Term	3½ months	Moderate	Complete	Tampon		Dilated the os	Recovered	Dead.
24	Fourth	Term	2 months	Profuse	Complete	Tampon	Profound debility	Dilated the os	Recovered	Dead.
25	Second	6½ months	15 hours	Profuse	Complete	Ergot	Anemic always	Dilated	Recovered	Living.
28	Eighth	Term	3 days	Moderate	Complete	Tampon, ergot, etc	Good	Dilated	Recovered	Living.
29	Fifth	Term		Moderate	Complete	Tampon			Died	Dead.
32	Third	7½ months	1 month	Profuse	Complete		Exsanguine		Recovered	Living.
33	Eighth	Term	6 or 8 weeks	Moderate	Complete	Ergot	Plethoric		Recovered	Dead.
37	Third		Some days.	Profuse	Complete	Ergot, etc	Debilitated		Died	Dead.
38	Second		At once	Profuse	Complete		Exhausted	Dilatable	Recovered	Dead.
39	Second		3 days	Profuse	Complete	Tampon	Fainting	Dilatable	Recovered	Dead.
42	Second	8 months	At once	Moderate	Partial	Par. det. of plac. and tam.		Dilated	Recovered	Living.
45	Twelfth	Term	2 months	Moderate	Complete	Spon. exp. of placenta	Good		Recovered	Dead.
46	Fifth	Term	4 months	Small	Complete	Ergot and stimulants	Debilitated		Recovered	Living.
54	Second	Term	12 hours	Profuse	Partial		Syncope		Recovered	Living.
55	Sixth	Term	6 months	Profuse	Complete		Pulseless	Dilated	Died	Dead.

NO. OF CASE.	NO. OF PREGNANCY.	WHEN DELIVERED.	TIME FROM FIRST HEMORRHAGE UNTIL DELIVERY.	CHARACTER OF HEMORRHAGE.	PLACENTAL PRESENTATION.	AUXILIARY TREATMENT.	CONDITION OF PATIENT WHEN TURNING WAS PERFORMED.	CONDITION OF OS WHEN TURNING WAS PERFORMED.	RESULT TO MOTHER.	RESULT TO CHILD.
56	Sixth	Term	At once	Profuse	Partial	Tampon	Kept up well	Dilated	Died	Dead.
59	Fifth	6½ months	At once	Profuse	Complete	Ergot	Almost dead		Recovered	Dead.
[illegible]	Fourth	Term	1 month	Profuse	Partial	Tampon, ergot, etc.	Pulseless		Recovered	Living.
70	Second	Term	At once	Profuse	Complete	Detached placenta			Recovered	Dead.
71	Ninth	Term	8 or 10 days	Profuse	Complete	Whisky			Recovered	Living.
72	Sixteenth	Term	At once	Profuse	Complete	Whisky			Recovered	Living.
73	Seventh	Term	At once		Complete	Whisky			Recovered	Living.
74	Third	6½ months	At once		Complete		Feeble		Recovered	Dead.
78	Fourth	Term	6 or 8 weeks	Profuse	Complete	Tampon and stimulants	Prostrated		Recovered	Living.
79	Fourth	Term	2½ or 3 mos.	Profuse	Complete	Brandy	Apparently dying		Recovered	Dead.
82	Mult	7 months	2 months	Profuse	Complete	Premature labor		Dilatable	Recovered	Living.
83	Ninth	Term			Complete				Died	Dead.
85	Fifth			Profuse	Complete		Exhausted	Dilatable	Recovered	Living.
86	Fifth	Term	Sev'al w'ks	Profuse	Complete	Tampon		Dilatable	Recovered	Living.
87	Second			Profuse	Partial		Exhausted	Dilatable	Recovered	Dead.
89	Second		2 months	Profuse	Complete				Recovered	Living.
90				Profuse	Partial				Recovered	Living.
91	Fifth			Profuse	Complete		Exhausted	Dilated	Died	Dead.
92	Third	Term	1 month	Moderate	Complete	Tampon		Firm and rigid	Died	Dead.
94	Third		Few days	Profuse	Complete			Dilated	Recovered	Dead.
95	Fifth	Term	2 months	Profuse	Complete			Dilated	Recovered	Dead.
96	Third	Term	At once	Mod. ext.	Complete		Sinking	Unyield'g at first	Died	
97	First	Term	1 month	Profuse	Complete			Dilated the os	Recovered	Dead.
99	Sixth	8½ months	Ten days	Profuse	Complete			Dilated	Died	Dead.

NO. OF CASE.	NO. OF. PREGNANCY.	WHEN DELIVERED.	TIME FROM FIRST HEMORRHAGE UNTIL DELIVERY.	CHARACTER OF HEMORRHAGE.	PLACENTAL PRESENTATION.	AUXILIARY TREATMENT.	CONDITION OF PATIENT WHEN TURNING WAS PERFORMED.	CONDITION OF OS WHEN TURNING WAS PERFORMED.	RESULT TO MOTHER.	RESULT TO CHILD.
100	Fourth	Term	3 weeks	Moderate	Complete			Dilatable	Recovered	Dead.
101	Third		Ent. preg.	Profuse	Complete		Alarming		Died	Dead.
102	Mult		2 or 3 mos.	Profuse	Complete			Rather rigid	Recovered	Dead.
103		8 months	At once	Moderate	Complete			Relaxed	Recovered	Living.
104		8½ months	4 days	Profuse	Complete		Articulo mort		Died	Dead.
105	Third		2 months	Moderate	Complete	Ergot			Died	Dead.
106	Mult	6½ months	Few days	Moderate	Complete			Resisting	Recovered	Living.
107	Third		1 month	Moderate	Complete		Exhausted	Open and soft	Recovered	Living.
111	Fifth	8½ months	2 weeks	Profuse	Partial	Ergot and Tampon		Little dilated	Recovered	Living.
112	First	7 months	1 month	Profuse	Complete	Tampon	Dangerous	Dilatable	Recovered	Dead.

Fifty-eight cases, forty-one mothers recovering and seventeen dying; twenty-five children living, thirty-one dead and two the result not stated.

Almost from the time placenta previa was first recognized, version has been the most generally accepted method of hastening delivery in those cases; and from the more recent authorities quoted by Dr. Mears in his paper read before the state society last year, it would appear that "the operation of turning is that in which the great majority of experienced practitioners still place their greatest confidence."[1] But there are conditions in which it certainly is not only inapplicable, but extremely hazardous. Simpson speaks[2] of the following classes of cases in which turning is the most proper and legitimate plan of treatment: 1. When the child is alive and at or near the full term of utero-gestation when labor supervenes. 2. In multiparæ, and in which the os uteri is either so dilated or dilatable as to allow of the introduction of the hand and extraction of the fetus without any fear of injury or laceration. 3. In malpresentations of the child.

In forty-one cases the time of pregnancy when delivery was accomplished by version is specified and results shown, as follows:

TIME OF PREGNANCY WHEN DELIVERY OCCURRED.	NUMBER OF CASES.	MOTHERS.		CHILDREN.	
		RECOV.	DIED.	LIVING	DEAD.
At six and a half months	3	3	....	2	1
At seven months	4	3	1	1	3
At eight months	3	3	....	3	....
At eight and a half months	3	1	2	1	2
At full term	28	20	8	13	14
Total	41	30	11	20	20

A glance at the above table shows the mortality to the mother heavier in those cases at full term than in those deliv-

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(1) Leishman, quoted by Dr. Mears, State Trans., 1878, page 105.

(2) Simpson's Obs. Works, page 691.

ered premature, while to the child there is a heavier mortality in those born before full time. Rigby's advice, that "where the patient is some time short of full term, the os uteri will be found unyielding and but little dilated, it will therefore seldom be possible, and scarcely ever proper, to introduce the hand into the uterus, as it will in all probability be attended with serious injury to the part itself."[1] And this same fear of injury to the mother probably prompted Simpson to give precautions that turning is applicable only when patient is at or near full term, but the experience as shown above is not in accord with their fears; nor is it probable that either of the three fatal cases delivered premature died from laceration or other injury to the cervix or parts of the mother, unless it was case number two.

Simpson's caution, that turning should be resorted to only in multiparæ, has not been altogether heeded in this collection. Three cases with the loss of one mother and all three children are reported in the first pregnancy.

A point earnestly insisted upon by all writers, the condition of the os uteri when turning is resorted to, has been mentioned by thirty-two reporters, as follows:

CONDITION OF OS UTERI WHEN VERSION PERFORMED.	NUMBER OF CASES.	MOTHERS.		CHILDREN.	
		RECOV.	DIED.	LIVING	DEAD.
Os uteri dilated or dilatable............	27	19	8	11	15
Os uteri open but rigid....................	5	3	2	2	2
Condition not mentioned..................	26	19	7	12	14

It is reasonable to suppose this omission on the part of the reporter in not mentioning the condition of the os uteri, was really an omission and not intentional, for a glance at the above shows the mortality greater in those cases in which this condition is specified.

Version was necessitated in six cases, because of malpresentation of the child; and I have classed one case of breech

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(1) Rigby's System of Midwifery, page 408.

presentation as a version case, as the hand was introduced through the os uteri and placenta to seize the feet, subjecting the mother to almost as great a risk as had version been actually performed.

The time from first hemorrhage until delivery took place and results are shown, as follows:

	NUMBER OF CASES.	MOTHERS.		CHILDREN.	
		RECOV.	DIED.	LIVING	DEAD.
In a few hours	17	13	4	7	9
Few days	6	3	3	3	3
One month	8	7	1	4	4
Two months	9	7	2	3	6
Three months	4	3	1	2	2
Longer period	4	2	2	1	3

The character of the hemorrhage has been classed and results shown, as follows:

	NUMBER OF CASES.	MOTHERS.		CHILDREN.	
		RECOV.	DIED.	LIVING	DEAD.
Small	2	2	....	2	....
Moderate	14	9	5	6	7
Profuse	37	27	10	15	21

The presentation of the placenta was reported and results shown, as follows:

	NUMBER OF CASES.	MOTHERS.		CHILDREN.	
		RECOV.	DIED.	LIVING	DEAD.
Partial	7	6	1	5	2
Complete	51	35	16	20	29

In the treatment which I have classed as auxiliary in those version cases, ergot was used with apparently no other object than that of exciting uterine contractions. The tampon was used in two cases to arrest the earlier attacks of hemorrhage. In four cases it is mentioned as having been of no effect, and in eleven cases it would appear to have been used with the view of restraining hemorrhage until dilatation of the os uteri was accomplished, preparatory to version. Whisky and stimulants are referred to by several reporters as being used at the time for its stimulating effect.

Some authors have advised that the hand be passed through the placenta when introduced with intention to turn. The practice, where specified by the reporters, exhibits the following result:

	NUMBER OF CASES.	MOTHERS.		CHILDREN.	
		RECOV.	DIED.	LIVING	DEAD.
Hand passed through placenta.........	7	4	3	3	3
Hand passed at side of placenta.......	12	10	2	7	5

There is danger of laceration of the cervix in turning under any circumstances, but this danger is increased to an extreme degree when the placenta is implanted over a cervix so freely supplied with blood vessels as it is in placenta previa. The body of the uterus may contract well, but the cervical sinuses are not closed and a slight hemorrhage may continue and soon terminate fatally. In such cases, when examined after death, the cervix uteri is found more or less torn. That such was the cause of death in some of the fatal cases in this table is very probable, but in none was it verified by post-mortem examination. Cases four and ninety-nine appear to have died of some form of puerperal fever. Case sixteen had rallied well and died suddenly, three hours after delivery, from supposed heart clot. Case eighty-three died from general debility due to chronic pulmonary disease. Case ninety-six, death was due to ante-partum concealed hemorrhage. In the other twelve fatal cases, they are reported as never rallying, but dying in a few moments, or within the week, from exhaustion, asthenia or slight post-partum hemorrhage.

Taking the mortality in this collection, where version was performed, and comparing it with the average mortality of the table, and we find it some little heavier. This increased mortality to the mother can not be altogether ascribed to the operation itself, for they were, as a class, under circumstances and conditions making them extremely dangerous before the operation was resorted to; and as for the child, it is very probable that the turning was not as great a factor in increasing the mortality, as asphyxia from the separation of placenta and the delay necessary before version could be performed.

To compare the version cases in this table with the statistics of Simpson's and Trask's collection of version cases, and we have the mortality in each shown, as follows:

	WHOLE NUMBER OF CASES.	MOTHERS DYING.	PER CENT.
Simpson's collection	421	144	34
Trask's collection	200	59	29
This collection	58	17	29

Dr. Robert Greenhalgh, in a paper presented to the London Obstetrical Society in 1864, recommended the induction of premature delivery in cases of placenta previa, after a period at which the fetus could be considered viable, and Prof. T. G. Thomas, of New York, has earnestly advocated the same plan of treatment, and says, in his opinion the induction of premature labor offers greater safety to both mother and child, than that of allowing pregnancy to go on to full term.

There is but one case in this collection—case sixty-nine—that can be classed as such, although two other cases are reported in which labor was brought on prematurely by the physicians, but as version was performed in both cases, they were classed in that table. There are several cases, however, reported in this collection, in which labor came on before full term, and to ascertain the mortality we will arrange them as follows and include the three cases referred to above.

Cases in which delivery occurred before full term:

NO. OF CASE.	WHEN DELIVERED.	TIME FROM FIRST HEMORRHAGE UNTIL DELIVERY.	CHARACTER OF HEMORRHAGE.	PLACENTAL PRESENTATION.	TREATMENT.	RESULT TO MOTHER.	RESULT TO CHILD.
2	7 months	2 months	Profuse	Complete	Tampon, premature labor and version	Died	Dead.
6	8½ months	24 hours	Profuse	Complete	Ergot	Recovered	Dead.
7	6½ months	At once	Profuse	Partial	Ergot	Recovered	Dead.
8	7 months	1 week	Profuse	Complete	Detach. of placenta and ergot	Recovered	Dead.
9	7 months	3 days	Moderate	Complete	Detach. of placenta and ergot	Recovered	Dead.
11	8½ months	3 weeks, once	Moderate			Recovered	Living.
15	8½ months	2 days	Profuse	Partial	Tampon and forceps	Recovered	Dead.
25	6½ months	15 hours	Profuse	Complete	Ergot and version	Recovered	Living.
26	8½ months	6 weeks	Profuse	Complete	Tampon and ergot	Died	Dead.
27	8½ months	30 hours	Small	Partial	None	Recovered	Living.
32	7½ months	4 weeks	Profuse	Complete	Version	Recovered	Living.
42	8 months	At once	Moderate	Partial	Part. detach. placenta, tampon and turning	Recovered	Living.
52	8 months	5 weeks	Profuse	Complete	Detached placenta	Recovered	Dead.
53	6½ months	1 day	Profuse	Partial	Ergot and ruptured membrane	Recovered	Dead.
58	8½ months	4 weeks	Moderate	Partial	Forceps	Died	Dead.
59	6½ months	At once	Profuse	Complete	Ergot and turning	Recovered	Dead.
69	7½ months	2 weeks	Moderate	Complete	Induction premature labor and forceps	Recovered	Living.
74	6½ months	At once		Complete	Version	Recovered	Dead.
81	8 months	At once	Profuse	Complete	Ruptured membranes	Recovered	Living.
82	7 months	2 months	Profuse	Complete	Induction premature labor and version	Recovered	Living.
98	8 months	14 hours	Profuse	Complete	Worse than none	Died undelivered	
99	8½ months	10 days	Profuse	Complete	Version	Died	Dead.
103	8 months	At once	Moderate	Complete	Version	Recovered	Living.
104	8½ months	4 days	Profuse	Complete	Version	Died	Dead.
106	6½ months	4 days	Moderate	Complete	Version	Recovered	Living.
108	7½ months	At once	Moderate	Complete	Ergot	Recovered	Dead.
109	8 months	1 month	Small	Complete	Tampon and ergot	Recovered	Dead.
111	8½ months	2 weeks	Profuse	Partial	Ergot, tampon and version	Recovered	Living.
112	7 months	1 month	Profuse	Complete	Tampon and version	Recovered	Dead.

RECAPITULATION OF THE ABOVE CASES.	WHOLE NUMBER OF CASES.	MOTHERS.		CHILDREN.	
		RECOV.	DIED.	LIVING	DEAD.
Delivered at six and a half months....	6	6	....	2	4
Delivered at seven months	5	4	1	1	4
Delivered at seven and a half months	3	3	....	2	1
Delivered at eight months................	6	5	1	3	3
Delivered at eight and a half months	9	5	4	3	6
Total delivered before full term........	29	23	6	11	18

The above table exhibits a much lighter mortality to the mother than the average of this collection, while to the child it is a little heavier.

These cases, however, should not be taken as corroborating or denying the correctness of Dr. Thomas' assertion. They have not occurred under the physician's close watching as they would have done, could he have selected his own time, and by Barnes' or Molesworth's dilators brought on delivery while under his personal management; and if we examine carefully the fatal cases in the above table, I believe we are justified in concluding, that were a similar collection of cases treated by the induction of premature delivery, the mortality to both mother and child would be less than is shown here.

With the facilities that the obstetrician may have at his command at this day, the dilators which are almost universally commended, and other agents which are comparatively safe and reliable, the physician, and especially the country practitioner, has more to encourage him in adopting the practice so earnestly urged by Greenhalgh and Thomas than any other method, to avert the dangers that in this paper and all writings upon the subject, are shown to be greater than anything that he as an obstetrician encounters in his practice.

The following table shows the mortality to both mother and child in all statistical collections to which I have had access:

	WHOLE NUMBER OF CASES.		MORTALITY.			
			MOTHERS.		CHILDREN.	
	MOTHERS.	CHILDRDN.	NUMBER OF CASES.	PER CENT.	NUMBER OF CASES.	PER CENT.
Churchill's collection[1].........	174	......	48	27.59	......	....
Simpson's collection[2]..........	654	......	180	27.52	......	....
Simpson's table[3].................	141	113	10	7.09	80	70.79
Trask's statistics[4]...............	343	237	83	24.19	163	68.78
Glisczynski[5].......................	90	90	14	15.55	28	31.11
This collection....................	112	109	30	26.78	61	55.96
	1514	549	365	21.45	332	56.66

(1) Churchill's System of Midwifery, page 431.

(2) Simpson's Obstetrical Works, page 601.

(3) Simpson's Obstetrical Works, page 629. Cases of entire detachment of placenta.

(4) Trask's Prize Essay, Trans. Am. Med. Asso., volume 8, 1855, page 595.

(5) Quotation in Am. Jour. Med. Sciences, July, 1861, page 290.

NOTE—By request of the State Medical Society, at its meeting in May, 1879, I will continue my collection of statistics of placenta previa, and report at the meeting in 1880. Those of the profession in the state, whose experience has not been given in this paper, will please write me and I will forward them blanks upon which to report their cases for next year.

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IMMEDIATE PLACENTAL DELIVERY IN NATURAL LABOR.

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Notwithstanding the fact, that much has been written upon all the subjects connected with parturition, yet, the investigation of all the features of that process is intensely interesting to all medical men. So great are the sufferings of the patient, so serious the occasional results, so varied, complex and responsible are the duties of the medical attendant, that a compliance with the demands of humanity, as well as of science, upon our professional skill, is sufficient to induce all of us to make use of every possible opportunity in acquiring knowledge and skill in the discharge of our manifold duties in the lying-in chamber. Coupled with this, are the facts, that the puerperal stage is one in which our deepest sympathy is demanded, and our patients deserving our most untiring, well directed efforts, to alleviate their suffering, and to conduct them safely through the terrible ordeal of childbirth. These considerations conspire to attach great interest to all measures that promise any additional safeguards from the perils, or any amelioration of the sufferings of that dreadful ordeal.

The delivery of the placenta, constituting the third stage of labor, is a matter of grave importance; and one that to my mind is of exceeding interest to the welfare of the patient, and one where the intelligent, well directed efforts of the obstetrician afford very great relief. Obstetrical authorities have fully elucidated the successive steps of the first two stages of labor with great minuteness and detail; yet, it seems to me, that this third stage has not received the attention that its importance demands, and that there exists a manifest laxity in the instructions as found in our text books on this subject, and a discrepancy between the *practice* and *precepts* of writers and teachers is noticeable.

Without consuming time to point out in detail the teaching of each individual author, suffice it to say, in the language of a writer on a kindred subject[1] to the one under consideration, "That, according to Riedel, as quoted by Dr. Chantreuil, there are four distinct historic periods, in which the study of the management of the placenta may be divided. The first of these embraces the first fifteen centuries, when obstetrical art was still in its infancy, and when its processes were violent, empirical, almost barbarous. The cord was not divided until the placenta was expelled; if expulsion was delayed, the child was used as a weight to drag it out, or in lieu of the child, a graduated weight fastened to the cord. To this were added violent shock or jars to the body of the *accouchee.*

"The second period embraces the sixteenth and seventeenth centuries, when *active* intervention characterized the practice of obstetricians as to the placenta; at once upon the escape of the child, the hand was introduced into the uterus and the placenta forcibly removed.

"The third period includes the eighteenth century, and is chiefly characterized by a marked reaction towards no *expectant* practice.

"The fourth period dates from the commencement of the present century, in which the expectant practice is most widely followed." And to-day, we have authoritative teaching that justifies a *waiting* for the delivery of the placenta from twelve hours down to twenty minutes—Denman on the one extreme and Playfair on the other—yet, singular as it may seem, and according to the universal tendency of fashion, science, art and literature, to travel in spirals, even tending to its original starting place; the treatment of the third stage of labor is now tending toward the active interference that characterized the

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(1) Dr. Parvin's article, Proceedings of Indiana State Medical Society, 1871, pages 16 and 17.

sixteenth and seventeenth centuries, and all our recent authors are gradually approximating that point, with a clearer idea of the process and improved methods of interference. Playfair strongly condemns the slovenly carelessness with which some practitioners neglect the delivery of the placenta.[1] Leishman recommends interference in twenty minutes,[2] and Schroeder in his new masterly work, recommends prompt efforts to deliver the placenta.[3] Why *any time* should be lost, between the birth of the child and the delivery of the placenta, I can see no good reason for; why one *hour* or one *minute's* delay should be recommended after the birth of the child before proceeding to deliver the placenta, I am unable to account for, on any reasons that I have ever seen adduced. I am satisfied from careful study, and considerable observation at the bedside in the lying-in chamber, that no time *need* be lost, and that the immediate delivery of the placenta, either with the same pain that expels the child, or instantly following it, is the course that seems to fulfill the indications best, and that it is the duty of the medical attendant to inaugurate such measures as shall accomplish that result.

Let us for a few moments examine the process of placental delivery, or the third stage of labor. It is, you know, divided into three stages, viz:

1. That of detachment from the uterine parietes.
2. Its expulsion from the os uteri.
3. Its expulsion from the vagina.

The relative importance of these stages is in the order of their occurrence; that of the first stage pre-eminently so, for once the placenta is completely detached, its expulsion from the uterus and vagina is readily accomplished by the combined efforts of accoucher and patient; remembering, however, in these last two stages, that extra-uterine efforts are most demanded, and that very little intra-uterine action is manifested or required to complete the process.

The first stage, that of detachment, you know is caused by the contractions of the uterus—a squeezing off process, if you

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(1) Playfair, page 282.

(2) Leishman, page 424.

(3) Schroeder, page 586.

please. The uterine surface to which the placenta is attached by the remains of the decidua and the minute utero-placental arteries and veins measures from fifteen to twenty centimeters in diameter, the adherent uterine placental surface covering that much. The placental mass being soft and inelastic, capable of condensation, but not contraction, while the uterus is hard, elastic, contracting powerfully, becoming rigid and contracted in all diameters as the contents are evacuated, necessitates the rupture of the fragile placental uterine attachments; and the plane of the uterus corresponding to that of the placenta, is reduced very quickly from fifteen or twenty centimeters originally, to much less, and the placenta incapable of contracting or diminishing its plane of uterine attachment is violently peeled or squeezed off, as any non-contracting substance becomes detached from one possessing opposite properties; the seed of a peach or cherry, for instance. Now, the amount of this detachment corresponds with the amount of contraction, and the reduction of the placental uterine plane; once secure complete contraction, and you necessitate complete detachment.

The placenta detached, we next desire its expulsion from the uterus. Here the views of our authorities are sadly discordant and undergoing a rapid change. Hodge, and, in fact, nearly all authors, taught and yet teach that the fetal surface of the placenta presents itself first at the os uteri, and that the attached umbilical cord is usually presented in the center of the superior plane of the pelvis. Such is not my belief. Dr. Mathews Duncan has demonstrated that, if not interfered with, *the edges* of the placenta will almost always present themselves.[1]

This view is now accepted by Playfair, Leishman, Schroeder, and other late authors. Imagine for a moment, if you please, what must be the true condition of affairs: A soft, inelastic, flat substance, attached to the inner surface of a hollow organ that is hard and contracting; the unresisting mass is first partially detached, and as the cavity becomes less it must accommodate itself to the diminished cavity, and a folding or

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(1) American Journal of the Medical Sciences, 1871, page 281, taken from Edinburgh Medical Journal, April, 1871.

rolling together must be the only method of decreasing its bulk; and once folded together, and the uterus contracting in all directions, it is forced toward the os uteri—not flat, with its broad surface forward, but edgewise, or rather endwise, with its long axis corresponding to the long axis of the cavity of the uterus, the presenting edge or end acting as a wedge to dilate the passage. Thus it passes, the long diameter of the placenta agreeing with the long diameter of the maternal passage. This doubled mass is then expelled with its two edges in front. The part first passing the os vaginæ is the point where the two edges meet in forming the double. Where the fetal surface presents and the placenta resembles an inverted umbrella, it is unnatural, and generally produced by traction on the cord, either from the accoucher or the weight of the child, the cord being short. This doubling together of the placenta, and its expulsion with its long diameter parallel with the axis of the os uteri and the os vaginæ, seems to me to be the natural mechanism of placental delivery, it allowing the most uninterrupted uterine contraction, and consequent arrest of hemorrhage in its incipiency; and when this natural process is adhered to, the amount of hemorrhage is very materially lessened, and but a very small quantity of blood need be lost.

The third stage by this method is merged into the second, and no apparent interval designates it, and we pass it. Having laid down the principles which we believe to be correct, let us pass to the consideration of the means by which we hope to attain complete compliance with them.

All authors unite in saying that until the placenta is delivered the patient is in great danger from hemorrhage, from uterine inertia, from hour-glass contractions, from syncope, from eclampsia, inversion of the uterus, thrombosis, entrance of air in uterine veins and sinuses, septicemia, etc., etc. That prince of American authors, Hodge, says that "many lives have been lost during this stage, when the previous labor had been perfectly natural and the child born alive and healthy."[1]

Playfair, in his latest edition, page 272, sums it up thus: "The third stage commences after the expulsion of the child,

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(1) Hodge's Obstetrics, page 182.

and it is of paramount importance to the safety of the mother that it should be conducted in a natural and efficient manner, for it is now that the uterine sinuses are closed, and the frail barriers by which nature effects this may be very readily interfered with, and serious and even fatal loss of blood ensue. Unfortunately, it is too often the case that the practitioner's entire attention is fixed on the expulsion of the child so that the natural history of the rest of the delivery is very generally imperfectly studied and understood." Leishman is equally emphatic in urging the interference of the medical attendant, and condemning the sloven, inefficient attentions so often rendered the mother, and says that in so far as the ordinary and normal condition of the placenta is concerned, the best safeguard against hemorrhage is the proper management of the placenta during and subsequent to the birth of the child.[1]

These extracts exhibit an epitome of the latest authority on this subject. All admit that as soon as the placenta is delivered the mother is in a condition of comparative safety. Now, in the face of all these dangers, and in view of the positive advantages of early placental delivery, why need we lose any time in accomplishing that desirable result, without waiting, as Hodge says some have done, for hours, and even days, for a return of labor pains?

My custom—and the one I recommend to-night—is, before the birth of the child to adopt such measures as shall induce placental detachment, and immediately upon the expulsion of the child from the uterus, without allowing any interval to elapse, to secure the separation and expulsion of the placenta; and, instead of a distinct and separate process, to make the delivery of the child and the secundines one and the same stage, or the delivery of the secundines the closing part of the second stage of labor, and as soon as the child is born complete the delivery. Without waiting to look after the child, or to ligate and sever the umbilical cord, remove the child from the bed, ascertain its sex, weight, looks, without examining it for marks and deformities, commenting on its resemblance to papa or its mother's relatives, or allowing golden moments to be

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(1) Leishman's Obstetrics, 1878 edition, page 406.

wasted, return to the bedside of the neglected mother, and wait for nature to accomplish a process that she has only failed to accomplish because plain indications were unnoticed; all which delay is, to my mind, unnecessary, unphysiological and unnatural.

My habit has been, and is, during the latter part of the second stage of labor, to adopt Crede's method of preparing for placental expression, by grasping the uterus and compressing it during a pain, and of following the uterus down as its cavity is being emptied, to compress the fundus and sides together closely, on the placenta, and as the child passes the os uteri and os vaginæ, to compress the emptied organ closely on the placenta, and to persevere in this compression after the birth of the child, and allow no cessation of uterine action until the delivery of the placenta is fully accomplished, and should there be any delay in the discharge of the placenta to at once, without relaxing the grasp on the uterus, pass the fingers of the unoccupied hand into the vagina and uterus, if necessary, and detach and remove the placenta, and without any interval complete the process of delivery.

Now let us see if this is in accordance with the indications. As before shown, the detachment of the placenta is accomplished by uterine contractions; now, as the body passes from the uterus, this grasping of the walls causes them to contract more firmly and uniformly, thereby causing constant detachment of the placenta as labor advances, and the moment the child is expelled, all the force of the uterine contraction must fall upon the placenta, and by firmly compressing the uterine walls to the placental mass, complete detachment must ensue; and when the uterus is in a state of violent contraction, as in the last throes of labor, it certainly is much better to insure its complete contraction and the necessary detachment and expulsion of the placenta, than to allow it to relax, allow the pains to wear off, and as in many cases to advise the patient to cease all voluntary efforts, and encourage the disappearance of the pains by advising her to "rest," "let up," etc., as is too often the case. The expulsion of the child allows the uterine walls to collapse. Now, why not take advantage of this natural indication and the best opportunity to cause the entire detachment? If the obstetrician closely and persistently follows the contraction of the uterine walls by making firm pressure of the entire body of the uterus, he insures complete contraction, and the unavoidable detachment of the placenta, and that in the most natural manner, and strictly in accordance with acknowledged physiological processes; for all authors agree that it is no uncommon occurrence for the placenta to be expelled by the last pain that completes the birth of the child. Again, they all teach that frequently, very frequently, the placenta is detached during the last expulsive pains of childbirth, and is left lying loose in the lower part of the uterus or upper part of the vagina, and all agree upon the good fortune to both patient and medical attendant when that occurs.

Hodge says, that perhaps in most instances the placenta is detached by the last pains which delivered the infant and is left lying loose in the uterus or vagina.[1]

Playfair says, that the uterus itself should be made to expel the placenta, and in nineteen cases out of twenty the fingers need never be introduced into the vagina after the birth of the child nor the cord touched.[2]

Then why do these authors advise waiting, waiting, anxiously waiting, for a return of uterine contractions after all this has been accomplished? I am unable to comprehend.

The placenta being detached by the complete contraction of the uterus, only needs to be delivered; happily by the method I suggest, detachment and delivery are completed at the same time, for as we have shown before, that this delivery is effected by the folding of the placenta upon itself, and its expulsion with the folded edge presenting, and the long diameter of the placental mass corresponding with the long diameter of the pelvis. Now, this squeezing process recommended above, tends to insure the folding of the placenta, the grasping of the fundus of the uterus causes it to contract strongly and force the contents toward the os, and the pressing down toward the lower part of the pelvis tends to press out the placenta and to call forth a continuation of the voluntary efforts of the patient, and the

(1) Hodge, page 185.

(2) Playfair, pages 278–279.

placenta is thus driven through the os uteri and vagina and delivered without any distinction in the so-called three periods.

I think that no one will question the mechanism of placental detachment or delivery, or the correctness of the instructions for rendering assistance as I have given them. The only question is in regard to the time when those efforts at assistance should be made. I strongly insist that those efforts should be made as indicated, when we have strong uterine contractions, such as always attend the last throes of labor. Why not utilize them to complete the process? Why wait and allow them to entirely subside instead of fulfilling the plain indications of the natural progress of termination of labor? Why cause the mother to relax her efforts and to anxiously wait until all uterine action ceases, until the enormously distended os uteri and the vagina contract to their original size, and then to call forth uterine contraction, and to distend those overtaxed organs again?

Let us look at the positive advantages of immediate placental delivery. All will agree that once the placenta is delivered, post-partum hemorrhage no longer threatens, and those obstetricians that practice early placental delivery and the expression of the placenta rarely meet with hemorrhage; and by immediate placental delivery we allow of no time for hemorrhage to occur, and we insure prompt and complete uterine contraction of all the lacerated uterine blood vessels and bleeding ceases very early. The placenta being delivered with the loss of scarcely any blood, no clots are formed in the uterus, and we very largely avoid the danger of septic poisoning, and our patients, to a great degree, are spared the annoyance and distress of the after pains that so commonly follow labor. This is a very decided advantage over the delayed delivery of the placenta, and a strong proof of the correctness of the proposed plan.

Again, by immediate placental delivery we insure against inertia of the uterus, which occasionally follows labor, and allows the most appalling hemorrhage. By closely following up the final contractions of labor, by this grasping of the uterus, we produce the detachment and expulsion of the placenta before the uterus has had an opportunity to relax, thereby securing a hard, solid, contracted uterus, that shows no disposition to relax and become flaccid, limp and bleeding.

Another important positive gain that is secured by immediate placental delivery is an immunity from hour-glass contractions, although I admit that this thing of hour-glass contraction is considerable of a bugbear, and experienced physicians find their occurrence growing beautifully less as they advance in professional skill. Yet, we occasionally meet with them, and they deserve consideration. My impression is, that the prime cause of that painful and annoying occurrence is that the undelivered uterus, in making efforts at placental delivery, the base of the uterine cavity being occupied by the placenta, it is impossible for the uterine walls to be brought in opposition, and in trying to accomplish the delivery under these circumstances the circular muscular fibres of the neck and lower part of the body of the uterus are violently contracted, and in consequence of the disturbance of the natural process of uniform contraction, a spasmodic contraction follows, as irregular muscular effort is apt to produce in any part of the body. Now, by making this pressure as I have suggested, at the time suggested, a uniform contraction is procured, and the placenta is detached and expelled and no disturbed muscular action is encountered.

Another positive advantage is gained by this method, viz, in the treatment of retained placenta. While I claim that the efforts above alluded to will cause the detachment and discharge of the placenta in all cases of normal attachment, yet we all admit that we find occasionally an abnormal placenta, one of fibrous or calcareous degeneration, or from syphilitic poisoning, or from the result of an injury, that is attached so firmly to the uterus that external manipulation is inefficient and that nothing but manual interference will remove it. Now, in one of these cases, the moment the delivery of the child is accomplished, and it is found that the placenta is not presenting at the os uteri or os vaginæ, the physician should pass his hand into the uterus and detach the adherent mass; no more opportune moment can be suggested than the one following the birth of the child. The parts are enormously dilated and unresisting, and are in that anesthetic condition that follows the first few moments of childbirth. It is manifestly much better that it should be done then than to wait until the contraction of the vagina and uterus and the return of sensibility to the bruised organs, and the irregular contraction of the uterus in vainly endeavoring to accomplish delivery. Again, in cases where the placenta presents the flat, fetal surface that follows traction upon the cord, the inverted umbrella-shaped mass closes down over the os, and like a valve is pressed by the atmospheric air closely over the mouth, preventing the discharge of blood, and effectually retarding the uterus in throwing off its contents. The practitioner can pass his fingers along the cord and unbutton the placenta, and save delay, pain, loss of blood and other serious complications. The time to do this is at once upon its very first discovery, and this discovery should be made as soon as the natural progress of delivery is disturbed. Relief can be afforded at this moment with much less violence and injury to the organs, and very greatly less suffering to the mother than at any other period. By prompt effort it can be accomplished almost without the consciousness of the patient.

Again, we avoid a protracted wasting, lochial discharge, escaping the dangers of septicemia, thrombosis, puerperal inflammation, and all that train of ailments that follow the imperfect discharge of the uterine contents. Once produce prompt, efficient uterine contraction, and the succeeding bleeding is very insignificant. In a remarkably short time the lochial discharge ceases, and the patient has a good getting-up, the uterus being so firmly contracted and emptied that involution takes place rapidly and completely.

Lastly, by delivering the placenta at once, upon the birth of the child, we gain valuable time in applying the binder and rendering those attentions to the patient in regard to cleanliness, dry clothing, fresh bedding, and the administration of refreshments and other comforts that sympathy and affection dictate, and soon securing for her that great boon of rest that she so earnestly craves and sadly needs.

What are the objections to immediate placental delivery? The only ones adduced by obstetrical authorities are, that the uterus needs rest—the muscular fibres being exhausted by the efforts at delivering the child need time to recuperate. This seems to me to be groundless. Only think that for hours the uterus has been contracting and relaxing, and for a greater or less time before delivery has been violently contracting every moment or two, that the pains may number up to scores or even fifties; yet through all this process no rest is demanded, the patient on the contrary being warned against rest. Now at the close, without demanding an additional contraction or allowing an additional relaxation, why not terminate the labor instead of waiting and allowing a complete relaxation, then calling on the uterus for additional contractions? Surely, if the uterus can endure scores of hard, long, propelling pains and demand no rest, it certainly can endure one more if demanded; nay, no other one is demanded by efficient, determined, proper effort on the part of the physician—no additional pains are demanded, only a slight continuation of the ones necessary to expel the child is requisite if the physician preserves his self-possession. This is the true way to give the uterus rest. The normal condition is one of complete contraction, and the sooner that is accomplished after delivery the more complete and absolute the rest.

Another objection may be urged, that the child is neglected, that the cord should be ligated before the placenta is expelled. This must fall to the ground when we remember that all authors warn us against too early tying of the cord—that this is the only danger mentioned by them in regard to ligation.

Hodge says that great mischief often results from the premature tying of the cord, and the best rule is, "never to secure the cord until respiration is fully established," and that the rule of "not tying the cord until the umbilical circulation has ceased is one against which no valid objection can be raised," and that it "should always be observed whenever the child is feeble, or respiration imperfect, therefore, in all cases of asphyxia, provided any pulsation remains in the cord;[1] and as pulsation

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(1) Hodge's Obsts., page 194.

in the cord ceases only when the placenta is detached, waiting until its expulsion only insures against a too early ligation, and the objection referred to is an additional argument in favor of rather than against immediate placental delivery. Permit me to add that very recently some German physicians have been carefully examining into the propriety of deferring the ligation of the cord until after the expulsion of the placenta, and the results of their observations have been, that where ligation has been deferred that a considerable quantity of blood was saved the child, and the children averaged from eight to twelve hours earlier in beginning to gain weight, and so marked were the positive advantages of this course that Professors Zweifel, of Erlangen, and Schroeder strongly recommend deferring the ligation until the placenta is delivered.[1]

As the only proof of the quality of the pudding is the eating thereof, permit me to furnish a short synopsis of a few cases that have fallen under my care the last few months, and which refer directly to the subject:

CASE 1—Mrs. R———, aged twenty-three, one child two years old, German; delivered of her first child by a midwife and the delivery of the placenta was deferred two hours; had severe post-partum hemorrhage; confined to bed six weeks; was confined November twentieth, 1878; after a labor of four hours, was delivered of a fine large child; placenta followed child and no hemorrhage; very slight after-pains; did well up to sixth day; out the eighth.

CASE 2—December 3, Mrs. Y———, aged twenty; first child; six hours labor; fine child; after-birth inside of a minute; did remarkably well.

CASE 3—December 18, Mrs. T———, aged twenty-seven; two children; had been attended by a physician in Cincinnati; had retained placenta and suffered severely from hemorrhage; was anxious, nervous and excited; five hours labor; child weighed five kilograms; placenta followed child; no hemorrhage, and one dose of three decigrams of cinchonidia and eight milligrams of morphia controlled all after-pains.

(1) American Journal of Obsts., January, 1879, page 196.

CASE 4—January 10, 1879, Mrs. H———, aged thirty-five; two children, last one seven years old; severe labor and flooding each time; had a sharp labor of eight hours; hard, bony head; placenta expelled with last pain; expelling child not a deciliter of blood was lost; no after-pains; patient did well.

CASE 5—January 24, Mrs. C———, aged forty-three; three children, youngest twelve years; small woman, always had hemorrhage and severe after-pains; after a seven hours labor delivered of a well developed child, and placenta followed during same pain; no hemorrhage, and one powder of three decigrams of cinchonidia and eight milligrams of morphia controlled after-pains.

CASE 6—Mrs. F———, aged twenty, *primipara;* after a sharp labor of five hours, was delivered of twins, second child immediately following first; the placenta expelled with last pain expelling second child; children weighing two and four-fifths and three kilograms, respectively; scarcely any hemorrhage; mother did extremely well up to the seventh day.

CASE 7—May 12, Mrs. R———, aged thirty-seven; mother of seven children; had always been attended by a midwife; has had seven post-partum hemorrhages; at last labor placenta retained three hours, followed by much hemorrhage, fainting, long-continued severe after-pains, and had a long getting-up, confined to bed four weeks; after a three hours labor delivered of a large child; placenta followed inside of a minute; no hemorrhage; slight after-pains; had a good convalescence up to sixth day, and on yesterday, eighth, up all day.

I might add more cases, but deem it unnecessary.

I think that the following direct advantages may be claimed for immediate placental delivery:

1. Security against post-partum hemorrhage.
2. Security against hour-glass contraction.
3. Security against uterine inertia.
4. Security against adherent and retained placenta.
5. Security against frequent, severe protracted after-pains.

6. Security against septicemia and prolonged lochial discharge.

7. It saves valuable time.

8. It saves suffering and anxiety on the part of the mother.

9. It is better for the child, as the cord is not ligated until the placenta is delivered.

10. It is in accordance with the natural indications and carrying out the physiological indications of the process of complete parturition.

EXCISION OF THE KNEE JOINT, WITH CASES.

JOSEPH EASTMAN, M. D., INDIANAPOLIS, IND.

Excision of the knee joint, for chronic disease, was first performed by Mr. Filkin, of Norwich, England, August twenty-third, 1762. The patient recovered in three months, with an useful limb. Mr. Park, of Liverpool, however, was the first to do the operation and publish it to the world, and by so doing brought to light the operation of Mr. Filkin nineteen years before.

Notwithstanding the successes of the gentlemen named, and although the confirmed utility of the operation by the Moreaus, of France, and others, ought to have popularized so great a conservative measure, surgeons took hold of it reluctantly until 1850, when we find Sir William Fergusson giving the operation his unflinching support. His success was soon verified by such men as Erichsen, Jones, Price, and Smith, in England; Butcher, in Ireland; Von Langenbeck, Fricke, Jarger, and Texter, of Germany; Syme, of Scotland; Barton, Pancoast, Mutter, Buck, Kinlock, Sayre, and others, of America; and to-day it stands as one of the most certain conservative operations, taking no mean rank among the triumphs of modern surgery. Barton was the first to perform the operation for deformity; and it is where, in consequence of bony anchylosis, the limb has drawn up to the extent that the foot can no longer be brought to the ground, that it confers its greatest blessings; and that, too, on a class of sufferers whose contracted limbs awaken our sympathies as they pass by, struggling at a great disadvantage with the cares of business life.

I propose, on this occasion, to report my individual experience in the operation, and in so doing will narrate my cases, three in number, with the peculiarities of each, as the basis of a few remarks on the mode of operating and subsequent treatment which I deem essential, and as a partial proof of the proposition that excision of the knee joint is a much less serious operation than a majority of our authors would have us to believe, and that it ought to be attended with vastly less danger to life than amputation at the knee, or through the lower third of the thigh. I am convinced that in consequence of some of our authorities casting the operation aside as inapplicable to so large a class of cases, and neglecting to point out minutely the more modern means of making it a success, many limbs are sacrificed which could be saved by proper conservative measures; and if I shall be the means of one fellow-creature retaining his foot and a comparatively useful limb, the reward will be ample for the labor bestowed on this paper.

CASE 1—Thomas Collins, aged eleven, admitted to city hospital March twenty-fifth, 1876. As consulting surgeon to the institution I saw him in less than thirty minutes after, and found him in the following condition, caused by a fall between the wheels and belts of a rolling mill: Dislocation of head of femur on dorsum of ilium, and deep contused wound over inner condyle of femur, and head of tibia of left leg. The right thigh presented an immense laceration of the quadriceps extensor, sartorius and adductor muscles, their lower two-thirds having been entirely carried away. The femoral artery protruded from the flesh and fascia some seven and a half centimeters, it having been severed near the apex of Scarpa's triangle. The shock was very great; as reaction came on the internal clots began to escape from the proximal end of the lacerated vessel, necessitating the application of compression over the ramus of the pubis. There was no question as to what was to be done. Accordingly, as soon as the temperature came up to 97° Fahrenheit, and the patient was brought under the influence of chloroform, I reduced the dislocated femur, by manipulation, and amputated the lacerated limb by the circular method at the junction of the upper with the middle third of the thigh. We had no further trouble with the stump of the right leg or with the dislocation, but in spite of our early and constant preventive treatment, the contused wound on the inner side of the knee set up acute suppurative arthritis, rapidly disorganizing the joint and reducing the patient to a condition of extreme debility.

On the twenty-first day after the amputation a consultation was had. Those who differed with me as to the comparative danger of the two operations, amputation and excision, were free to admit that life with no legs would be very undesirable. The patient being again brought under the influence of chloroform, I excised the joint, leaving a portion of the epiphyses of the tibia and fibula so that the subsequent development of the limb should be as little interfered with as possible by the destruction of a center of ossification. The wound was healed at the end of one month, and at the end of two months he could walk with crutches.

Few cases occur where the powers of life are lower at the time of operating, and I firmly believe, had we amputated the limb, the patient would have died, as shock certainly bears an important relation to the vital structures we sever and the distance of our operation from the trunk.

Case 2—Thomas Lennahan, aged thirty-eight, by occupation laborer; had been the subject of caries of the upper third of tibia for nineteen years, during which time a large portion of the cancellous tissue of the head of the bone had been discharged through a large cloaka near the tubercle About the middle of September, 1876, while our patier was in contest with a hog (in one of our pork-houses) the inn condyle of his femur seemed to break down through the inte nal tuberosity of his tibia into the cavity below, from whi the cancellous tissue had been discharged. He was carried his boarding house, and on my arrival I could feel the edge the internal semi-lunar cartilage, which had been pushed dc into the cloaka at the head of the tibia. Above it I could feel the articular surface of the internal condyle of the femur. There was about the same amount of lateral as antero-posterior motion. Amputation above the knee seemed "the thing to do," but the patient positively refused to submit, notwithstanding the earnest and forcible arguments of his priest; he knew the result in the case of the boy Collins, and demanded the same procedure, or the privilege of dying with his leg on. Amputation being out of the question, we awaited for a time the result of the conservative forces of nature.

A very high grade of inflammation set in, followed by a free discharge of pus from the old openings in the tibia, and from openings made with the bistoury in the lower part of the thigh and about the knee. He continued in this condition for about two months, when hectic fever, night sweats, diarrhea, etc., warned us that he could not hold out much longer without aid. The question of amputation was again brought up, in a consultation in which Professor Fitch, of Logansport, participated. Though the patient was reduced physically, he seemed more fixed in his mind than ever that he would live or die with his leg.

November 10—I excised the joint, sawing off two and a half centimeters of the femur and ten centimeters of the tibia, the latter bone being the seat of chronic inflammation at the point where it was sawed, and a large cloaka remaining, some seven and a half centimeters below, in the same bone. A portion of the fibula was sawn off, and was in a healthy condition; the patella was much diseased. The bones were not forced together, notwithstanding twelve and a half centimeters intervened between them. The operation was followed by very little shock; the hectic fever rapidly gave way; diarrhea, cough and night sweats gradually disappeared, and at the end of one month, the patient had materially gained in weight; the discharge from the wound was but little, and a perceptible ligamentous union had taken place. It was a number of months before he could walk unaided by crutches, and notwithstanding an opening in his tibia at present, he has a leg, which enables him to work at the same business as before the injury, and one which he shows as a triumph over the disparagement of those doctors who wanted to cut his leg off.

CASE 8—J. B., aged twenty-four, by occupation a carpenter. Diagnosis, suppurative arthritis; result of a cut on knee with an ax some nine years ago. It was better and worse, from time to time, until about four years since, when, working on his knees nailing down flooring, it was so jarred as to become materially worse. I first saw the case May 8, 1876; found joint very much enlarged, containing a quantity of fluid, the patient was at once placed in bed; extension applied to foot; and blisters, large and small; ointments of various kinds; cold bandage with elastic compression, etc. On several occasions I aspirated the joint, using the needle of a hypodermic syringe, attaching to it the tube of the aspirator. For a time he seemed to improve, but whenever the slightest motion was permitted the swelling would return. He remained in this condition until in September, 1877, when he had an attack of chills and fever; from that time forward there was no improvement.

About January 1, there was decided lateral motion, indicating that the semi-lunar cartilages had been destroyed. I again aspirated the joint, drawing out a fourth of a liter of thin pus. Becoming tired of the city, the patient returned to his home some fifty miles distant, and remained until in October, 1878, when his brother reported to me (on the authority of his attending physician) that he was becoming tuberculous. I asked that he return to the city, and after careful physical exploration of his chest became satisfied that his cough, diarrhea, night sweats, fever, etc., all came from the knee which was enlarged, boggy and discharging pus from a number of sinuses. Excision was proposed and accepted. We improvised a spray-producer and operated as nearly as we could after Lister's mode. I removed five centimeters from the femur and two and a half centimeters from the tibia; the operation was complete in twenty-six minutes, followed by no perceptible shock, no traumatic fever; absolutely no elevation of temperature.

Union by first intention was obtained in the skin flap, and at the end of three weeks I asked Drs. L. L. Todd and T. N.

Bryan to see the case with me, in order to corroborate my belief that the bones had united, and that, too, as quickly as in simple fracture, and that the leg was sound and well.

The first and third cases herein reported, if not proof, are at least evidence to my mind that the operation (when performed, as I shall presently indicate) is attended with less danger to life than amputation for the same disease, and followed by as speedy convalescence. Further, the same surprising improvement follows that we see after amputation for chronic joint disease: hectic fever, night sweats, diarrhea, cough, etc., leave the patient, and in a few days he is a new being.

The second case shows that a healthy femur will unite to a tibia, the seat of chronic inflammation for nineteen years, involving more than half its length, and form a limb which to a laboring man is far better than any artificial one, such being too often thrown aside, and the thoughts of the torture it gave the stump are sufficient to keep the owner from taking it to an instrument maker for repairs. If I am not mistaken, a large majority of laboring men who have had their limbs amputated above the knee are (if alive) walking with crutches and not on any of the ingenious contrivances which do credit to mechanics rather than surgery.

One other object that I have in view in showing that excision is less serious, and produces better legs than has been supposed, is that its benefits may be extended to cases of incurable synovitis, where the exigencies of the case do not demand amputation. If the functions of the joint are to be lost in consequence of chronic inflammation in any of the structures about the knee, the dangers of suppuration and deformity that await the limb outweigh any advantage of the complex joint machinery, and should be averted by their removal. Consolidated bones, with healthy tissues surrounding them, are far better, in my judgment, than an old rickety joint which, like a sore thumb, is always getting hurt. Certainly the slight amount of motion in most of these cases is but a disadvantage, because it produces and maintains irritation, the great underlying principle of all inflammatory action. Again, if the fatality of excision of the knee joint can be placed where it ought to be, showing, as I believe it will, a mortality of less than ten per cent., we can benefit many a poor creature who walks with a crutch because his anchylosed limb prevents his putting the foot to the ground.

Mr. Erichsen[1] says of amputation through the knee: "The limb being removed at a greater distance from the trunk, the shock to the system will be less and the rate of mortality diminished."

Dr. Gross[2] gives the statistics of Markoe, N. R. Smith, and others, showing that the operation above referred to has an advantage over amputation of the thigh of seven per cent. If, then, the rate of mortality is less after amputation through the knee than in the lower third of the thigh, why is not danger still diminished in excision, since we do not sever the nervous and vascular supply of the popliteal space in the latter as we do in the former operation?

Dr. Hamilton, after having shown the statistics collected by Dr. Hodge, since 1850, of two hundred and eight cases of excision, with a mortality of twenty-nine per cent., remarks: [3]"The first point of inquiry in any case, when the relative advantages of excision or amputation may arise, ought always to be, by which method is life least endangered? I believe that fully fifty per cent. of the cases of excision have died, or had their limbs amputated." I always advise students to buy "Hamilton's Surgery," and yet if they are to make up their opinion from his statement of the safety of the two operations, I doubt if they would be based on the law and evidence in the case. Is not Hamilton mixing the unsatisfactory results of primary excision for gun-shot wounds with those for disease?

Mr. Erichsen, after having shown statistics in favor of excision of the knee over amputation of the thigh in the proportion of twenty-one to forty-four per cent. of deaths, and after having stated, "if an useful limb can be preserved to the patient, it can matter but little if a few additional weeks be devoted to the procedure by which it is obtained; and, indeed, it is a question whether, in many cases, the patient may not be able to walk just

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(1) Edition of 1878, volume 1, page 119.

(2) Edition of 1866, volume 2, page 1,010.

(3) System of Surgery, last edition.

as soon after excision as after amputation, for though the amputation wound may be healed in three or four weeks, it may be as many months before an artificial limb can be worn;" he then sums up in the following language: On the whole [1] "I think it may be fairly stated that although excision of the knee joint may in some cases leave an excellent result, and thus be preferable to amputation, yet when we consider the uncertainty of the result, the greater mortality attendant on excision than on amputation of the thigh for chronic disease of the knee joint (especially in the two earlier decennial periods of life), we should practice excision as the exceptional operation, and I would still feel disposed to give the preference to amputation in the majority of cases." Erichsen and Hamilton are favorite authors, and yet I hope, as a rule, doctors will go behind their conclusions when deciding upon the relative advantages of the operations in question.

Dr. Culbertson[2] reports sixty-one excisions for gunshot wounds, twenty-eight for injury, six hundred and three for disease, fifty-three for deformity—total, seven hundred and forty-five, and makes the mortality, after the operation for disease, at about twenty-nine per cent. In these cases in England the per cent. of mortality was $23\frac{60}{100}$; France, $57\frac{14}{100}$; Germany, fifty; Ireland, fifty; Scotland, $27\frac{58}{100}$; Switzerland, $58\frac{33}{100}$; United States, $19\frac{23}{100}$. For disease—for deformity, England, twenty; Germany, $16\frac{66}{100}$; United States, ten per cent.

For statistical purposes this is all very well; but, in deciding in a given case, Americans ought to be governed by the American statistics of nineteen per cent. for disease and ten for deformity; or hope for still better things by the result in Ashhurst's ten cases, and give the patient the benefit of excision, inasmuch as amputation is not more serious afterwards than before.

Dr. Ashhurst has excised ten joints, for disease and deformity, and the result has been a useful limb in every instance. His mode of operating is in part, the one I prefer, and he is the only authority, I find, who insists on what I consider some of the essential steps of the operation. The old axiom, "That the

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(1) Edit. 78, vol. 2, page 272.

(2) Prize Essay Am. Med. Assoc., 1876.

simplicity of a surgical operation is the measure of its success," holds good here, and yet we are advised to make incisions, which will necessitate a number of unnecessary ligatures, materially interfere with the vascular supply of the anterior portion of the limb, by severing the articular branches of the popliteal artery, or their large anastomosing branches, force the bones together with wire, preserve periosteum from the bone we remove, etc., etc.[1]

As to the mode of operating, I will refer to seven points, which I deem essential to success:

1. The simple transverse incision (originally suggested by Mr. Park, though not used by him), "carried across in front of the joint, immediately below the patella, the extremities being carried well backwards, so as to insure free drainage during after treatment."
2. The flaps, dissected upwards, must be of skin, and the least amount of superficial fascia possible.
3. The patella, whether diseased or not, should be removed, and all the diseased tissue with which it is surrounded.
4. After we have sawn off the bones, we should clip away, with large scissors, curved on the flat, any shreds of synovial membrane or ligaments, with any thickened tissue, that may be removable; dissect out all old sinuses, which, as so many rat holes, burrow from periosteum to bursa. We should make no attempt to preserve periosteum, except on the healthy bone that we intend to remain. This last instruction, I know, is in defiance of good authority, including Dr. Culbertson as he expressed himself in his prize essay before the American Medical Association; but, I believe, the removal of periosteum, sinuses, bursa, diseased tissue and such like, is the fulcrum to the lever of success. Dr. Ashhurst insists upon it, and the time never will come when we can achieve great victories in surgery or war without attention to details. Moreover, a skin covering is all that is required for the new knee. We must make a clean wound; reduce the case to a simple compound fracture, then we will have the success we obtain in such injuries, plus

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(1) Trans. Coll. Phys., Philadelphia, vol. 2.

the advantage we gain by ridding the patient of a mass of disease, which has been loading his absorbents with the seeds of death. On the contrary, every fragment of membrane, periosteum, ligament, bursa, sinus left, must inevitably act as a foreign body; set up irritation; form abscesses, sinuses, and thus prolong convalescence weeks and months, bringing the patient to the verge of the grave, or send him over the river, "where the doctors will cease from troubling and the weary shall find rest."

5. The bones ought not to be forced together with silver wire—it may be mechanical, it is not surgical—as, if any considerable amount of bone has been removed, the circulation of the soft part will be materially interfered with, and the tissues of the popliteal space compressed, by too speedily and forcibly approximating the bony surface. Nature, ever ready to aid in all conservative processes, will have the bones together in proper time, aided by a gentle push upwards of the leg, from time to time, when we are dressing the limb. By leaving out the silver wire, and keeping open the lower angles of the wound, we are enabled to drag a small rope of oakum through it, if union is at all delayed; thus we prevent all possibility of abscesses or sinuses forming in the thigh or leg, as every drop of pus can find ready exit. This is not necessary in many cases, but I speak of it as a means at our command of preventing the formation of sinuses, which, followed by hectic fever, diarrhea, septicemia, etc., alone can prolong convalescence to the average period of eight months, as our authors teach.

6. We should endeavor to obtain union by first intention, of the flesh wound, except at the lower angles, where free drainage should be maintained until the bones have united. If any blood vessel should require a ligature, it should be brought out at one of the angles of the wound. In neither of my three cases, however, have I found it necessary to use ligatures at all. I do not use the Esmarch bandage in this operation.

7. The antiseptic spray has in this operation its special field of usefulness, where one is cutting through old sinuses, rotten bone and healthy tissue with the same sweep of the knife; handling diseased tissues and then closing up the

wound, a portion of which you expect to unite by first intention; all is calculated to make one wonder why a teacher with the mission of Lister, who has immortalized his name for all time, had not arisen at least a century ago. I would have a strong solution of carbolic acid, one to five, thrown into every sinus before beginning the operation; water and soap are possessed of great virtues, but they can not so cleanse a wound of this kind but that it would be a favorable place for the development of germs that would materially increase the mortality of the operation. Whatever views the surgeon of to-day may hold as to the value of antiseptics, I venture to say that no one will denounce them as a humbug, unless he be some self-conceited bigot, whose mental capacity never was sufficient to comprehend the great science of surgery or practice its noble art. The assertion often made, "I have done very well without them," is an insult to our common intelligence, when we reflect that the statistics of no operation have reached their acme of perfection until death shall cease to follow our work. Look, if you please, to the statistics of ovariotomy twenty years ago. Does any one believe that they would have reached their present markings had not Spencer Wells grasped with eager hand all that Lister's genius could invent, or Wells apply, to place his favorite operation among the precious blessings of humanity? If the man lives who believes that Thomas Keith could repeat his forty ovariotomies without antiseptics, and save every case, I doubt if the Rothschilds have money enough to induce him to undertake the task. Such is the faith of those who have seen its practical workings that they could scarce be induced to perform any considerable operation without its aids.

A remark made last year by Dr. Humphreys (the honored president of this body), in his able paper on conservative surgery, is in point: "The surgeon in private practice (as a general thing), who promptly resorts to amputation, adds greatly more to his reputation in the esteem of the public (who always regard amputation as something heroic) than if he save a limb by means that tax his ingenuity and skill vastly more than amputation." But we should remember the words of him in recognition of whose wisdom the surgical world has bowed:

[1]"I know of no operation which I approach with so much reluctance as the amputation of a limb, or one which gives me so much real pain." And not only to his honor as an American surgeon, but to his far-seeing wisdom, be it said, he places excision of the knee joint as a less dangerous operation than an amputation of the thigh.

(1) Dr. Gross.

AFFECTIONS OF THE GALL-BLADDER,

TENDING TO RESULT IN CUTANEOUS BILIARY FISTULA.

G. W. H. KEMPER, M. D., MUNCIE, INDIANA.

External biliary fistula is a rare complication, and many physicians in a life-long practice have failed to meet with a single case. Medical literature records but few cases even as a contribution from the many. Neale's Digest of the chief English medical journals for a period of thirty years refers to less than one dozen cases, and a moderately careful search through a large number of files of our own journals has convinced me of their rarity. The fact, however, that such cases do occasionally occur, and that the earlier symptoms are often obscure and calculated to deceive the practitioner, should prompt us to collect all the information we can concerning them.

During the past few months it has been my good fortune to observe a patient who suffered from a distended gall-bladder which eventually terminated in an abscess in the right inguinal region and the evacuation of a number of biliary calculi. This case led me to look up the literature of the subject, and hoping that the result of my studies might prove of interest and profit to others, I submit for consideration the facts I have been able to gather from personal experience as well as observations gleaned from others.

CASE 1—Mrs. H., aged fifty-three years. During the months of April and May, 1878, she had several "bilious attacks," alternating diarrhea and constipation. About the first of June following she noticed a considerable enlargement over the right side on a line and to the right of the umbilicus. It was painful and necessitated a loosening of her clothing around her body. About the first of August I saw her with my partner, Dr. Winton. She thought the tumor had gradually descended in the abdominal cavity. We found the greatest prominence on a line with the spinous process of the ilium and midway between that point and the median line. It had a rather hard and doughy feeling and showed but little tenderness on pressure. It was about half the size of a fetal head, and its borders were well defined. The skin above it was unchanged in color. The liver was tender on pressure and its lower border extended about two and a half centimeters below the ribs. She had a "sallow" color; was weak and walked about with much difficulty on account of pain in the tumor occasioned by motion, and leaned forward to relax the abdominal wall. We regarded it as an ovarian tumor.

No farther examination was made until the fourteenth of October. She had constantly suffered more or less pain. The tumor had decreased some in size and also descended yet lower in the abdominal cavity—into the right inguinal region. The skin was a reddish brown and studded with little nodules. The tumor was pointing and indicative of approaching suppuration. I directed poultices.

October 16—I called again, expecting to incise an abscess. The tumor was still quite hard to the touch, except for a depth of six millimeters, whence a thin, yellowish-colored fluid was oozing from two or three sinuses, but no indications of pus. The skin was purple. I now suspected malignant disease, and concluded to await further developments, rather than make an incision. Zinc ointment dressings were applied.

November first—Was called in great haste, and was accompanied by Dr. Winton. Two hard bodies had just been expelled from the tumor, and occasioned the alarm. They proved to be gall-stones, and so explained the mystery. With a silver probe and dressing forceps I removed twelve more from the bottom of the abscess, the sizes varying from seven centigrams to eight and a half decigrams, and marked by facets. The opening was a ragged slit situated in the right inguinal region. No pus escaped, simply a brownish-yellow colored fluid. The relief was at once marked, and she rapidly gained in strength. On the twentieth of November two more calculi passed, making sixteen in all. The fistula healed in March last. Her health is now better than usual.

Case 2—A woman, aged forty-two, began in November, 1874, to feel a severe pain in the right side. On examination there was found a somewhat diffused tumor about the size of a child's head, which extended from the umbilicus to the spinous process of the ilium. Fever being also a symptom, the case was diagnosed one of suppurative ovaritis. In December, it was determined to open the tumor, and for this purpose the Vienna paste was applied. The skin was destroyed in three days and the aponeuroses in seven, and from the exploratory puncture then made a little fluid escaped, but the needle came in contact with numerous hard bodies which on removal proved to be gall-stones. Forty of these were then taken out. A very large one was then found almost encapsulated; it was broken down and then extracted without much difficulty, when some bile was also discharged. This biliary fistula soon closed, and in March, 1875, the patient had entirely recovered.*(1)

Case 3—M. P., male, aged sixty-nine years. Had been subject at times to severe pain in the region of the liver for years, and in the latter part of the year 1869 an abscess formed in the right hypochondrium. An opening was made without waiting for a thinning of the integuments. There was an immediate discharge of pus, yellow bile, and small black specks, which were easily rubbed up and became of a bright yellow color. He was somewhat relieved, and continued to improve with the discharge of similar matter, with now and then a clogging up of the aperture, till in about a month gall stones of various sizes up to that of a cranberry began to issue, and continued with volcanic irregularity of rest and activity, till December

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* This and the following cases are abridged from the authorities named.

(1) Gazette des Hop. Clinic, vol. ix, p. 120.

28, 1873. He is now robust and able to attend to his business, in better health than for many years.[1]

Case 4—A female between the age of fifty and sixty years, presented a biliary calculus to Dr. Dalton, and gave the following history: An abscess first showed itself just at the right of the umbilicus, and shortly opened spontaneously. Five months afterward the first gall-stone was discharged. The fistula then remained open for six years, at the end of which time a second gall-stone came away, and after that the sinus readily healed. It was this second calculus which was presented for examination. It consisted almost entirely of cholesterine, with a very small amount of coloring matter and salts. When whole it was about the size of a large walnut and weighed eight grams, six and a half decigrams.[2]

Case 5—Mr. Peter Marshall exhibited a patient aged forty-six years, who had had abdominal pain with occasional jaundice ever since he was seventeen years old. Fourteen years ago a large abscess occurred in the right lumbar region which discharged blood and afterwards thin watery fluid. After nine years the abscess healed, but a short time afterward three small abscesses were observed in the groin, from the lowermost of which was obtained a biliary calculus, weighing one gram, six decigrams. Dr. Thudichum thought that in this case the cystic duct had been obliterated long before the abscess formed and that the man had no gall-bladder now.[3]

Case 6—Mrs. W., aged forty-one years. In January, 1865, the skin about the naval began hardening and swelling. After lasting about three months, increasing in size, but with little or no discomfort, it burst at the umbilicus, and some glairy fluid with a small quantity of pus escaped, followed by small concretions consisting of cholesterine, and continued to pass small gall-stones for two months—the largest the size of a pea, and afterward passed one weighing one decagram, seven and a half grams. There was no jaundice in this case.[4]

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(1) Daniel Perly, M. D., Boston Medical and Surgical Journal, June 22, 1876.

(2) J. C. Dalton, jr., M. D., American Journal Medical Science, vol. xx, p. 48.

(3) Proceedings Medical Society of London—Lancet, December 12, 1868.

(4) Dr. Westfield, Lancet, January 29, 1870.

CASE 7—Dr. Anderson reports a case of abscess in a female encircling the umbilicus, discharging unhealthy pus. She was ordered a poultice to the umbilicus and tonics internally. About a week after she called on me and produced two large white gall-stones which had just been discharged from the abscess. Three months she suffered from severe pain in right side, attended with violent sickness. The supposition is, that these stones, somewhat larger than usual, in endeavoring to pass the duct into the intestine, became lodged, set up inflammation, perforation resulted, adhesions formed between the duct and abdominal walls and hence the abscess and gravitation to the umbilicus.[1]

In the "Lancet," August 21, 1865, reference is made to the above case and a similar one reported, in which a cholesterine calculus was discharged from the umbilicus of a young lady. The weight of the stone being two decagrams, five and a third grams. It is supposed that the calculus had been three years in making its way to the surface.

CASE 8—M. Bronson, of Nimes, describes the following case: A female patient was suffering from a painful, ill-defined tumor, situated in the right flank, between the spine of the ilium and umbilicus. The tumor was taken to be a suppurating ovary and was opened with the caustic Vienna paste. The tumor was found to be due to an accumulation of biliary calculi, of which no less than forty were removed. In three months the patient had recovered.[2]

CASE 9—L. M., aged sixty-one years, spinster. Florid complexion. Tolerably healthy, although since the age of twenty-five, has had repeated attacks of liver complaint, presenting symptoms of the passage of gall-stones. Dr. Welch, a partner of Dr. Watmaugh, saw the patient in April, 1865. He found a tumor larger than an orange in the right hypochondrium. It was extremely hard, circumscribed and movable. The acute symptoms were relieved, but the tumor increased slowly in size until by the middle of July it had occupied part of the right

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(1) Lancet, August 14, 1875.

(2) Journal de Medecine, August, 1875, and Medical Record, vol. ix, p. 632.

lumbar and hypochondriac regions. The center of the tumor was on a line with, and twelve and a half centimeters from the umbilicus. She experienced no pain, and presented no symptoms of the formation of pus, although considerable emaciation and loss of strength. The diagnosis was doubtful, but the prevailing opinion was, that it was malignant, although there was no history of cancer in her family, but she continued to lose flesh and strength, which seemed to confirm such a diagnosis. On the fourth of January, a blister was applied over the center of the tumor, which was now found to be firmly adherent to the abdominal wall. The blister gave exit to a large quantity of pus and blood, which caused a diminution in the size of the tumor. The discharge was finally stopped by a hard substance in the orifice, which the patient picked out with a hair pin, and this was followed by twelve smaller ones of the same character. This led to a more copious discharge of pus and blood, with a farther decrease of the tumor. From this time she improved rapidly. A discharge of pus continued until the first week in September, when it was again arrested by one of these calculi. It was extracted and twenty more escaped, and about the middle of November again twenty more exactly like the former ones. A slight discharge of pus continued to annoy her for some time, but gradually she became perfectly restored and resumed her household duties. The stones were of a fawn color and composed of carbonate of lime and biliary pigment. They ranged in size from a pea to a hazel-nut, with well marked facets on each.[1]

Case 10.—R. K., aged sixty-four years, was admitted into the Liverpool workhouse hospital, August 4, 1875. He had been a healthy man up to the beginning of the year, when he felt a "coldness" in the right hypochondriac region—a feeling that was at first more unpleasant than painful, and not confined to any particular spot. A month after, a pain began, which gradually increased in severity and was soon followed by a "swelling" at the junction of the last two or three ribs with the sternum on the right side. This swelling rapidly increased in

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(1) Dr. Watmaugh, Medical Times and Gazette, vol. ii, 1865, p. 628.

size, and extended to the right and left, forming a hard, painful ridge across the upper part of the epigastric region. In June, last, an opening formed a little to the right of the tip of the ensiform cartilage, whence to his great relief, a whitish fetid matter was discharged. A few days after, a persistent and troublesome pyrosis commenced—the fluid regurgitated being hot, glairy and sometimes semi-flocculent.

When admitted, the patient was very much emaciated and debilitated, with yellowish cachetic appearance, but no jaundice; appetite good. There was a ragged opening at the ensiform cartilage, with a ridge to the left and right, as above described. The discharge from the abscess is variable in quantity and character, being sometimes thick, at other times thin and watery. Considerable pyrosis.

There was no change in his state until August twenty-first, when a gall-stone, two centimeters by a half centimeter, and oval in shape, was found jammed in the opening; after its removal, small quantities of food were seen to return by the opening for the first two days; on the third day all his food was so returned immediately after swallowing, and so continued until his death, on the sixth day of October.

At the autopsy, the stomach was found dilated to twice its natural size; the cardiac region healthy; the pyloric region, for five centimeters above the pylorus, presented several excavated ulcers. The pyloric ring was firm and prominent; its mucous membrane ulcerated. The first part of the duodenum was much dilated, its right extremity adherent to the liver, completely concealing the site of the gall-bladder, its mucous membrane ulcerated and thickened, and its cavity full of a mixture of pus and food. At the place where the duodenum had become applied to the liver an opening existed, whence the finger could be passed from the duodenum into a large irregular cavity bounded by indurated hepatic substance and extending at one point to the upper surface of the liver, whence a fistula ran to the left, between the upper surface of the liver and the abdominal wall to reach the external opening. No trace of the gall-bladder could be found. The hepatic as well as the common bile duct were normal, and a small portion of the cystic duct still pervious, extended to where the liver and duodenum adhered to each other.[1]

Case 11—H. E., a widow, aged fifty-nine years. Has been subject to occasional attacks of pain in the right side. After an attack of unusual severity, there remained great tenderness and swelling at her right side. Over this the skin became red and inflamed and in less than a week after it burst, and a quantity of green matter escaped with about fourteen calculi, apparently composed of cholesterine with striæ of pigment matter and of angular shape. In the subsequent poultices three more calculi escaped. The redness of the skin and tenderness now rapidly abated, leaving an opening the size of a crow's quill, situate about five centimeters in a slightly oblique line below the umbilicus. From the orifice was a constant oozing of nearly colorless mucus, which was somewhat increased upon pressure from above. A probe introduced readily passed obliquely upward for nearly six centimeters, when it came in contact with a solid body. After several ineffectual attempts to extract it with the dilating forceps, I was compelled to slit up the sinus as far as the stone and readily removed it.

At the end of two or three weeks a second calculus was removed in the same manner. At the present time the fistula has again relapsed into its former indolent state, discharging nearly colorless mucus. There can be no doubt that the sinus will again open from time to time, as many calculi are still in the bladder.

Considering the difficulty of determining the amount of adhesion existing in such cases, we must be extremely careful to use only the gentlest means in endeavoring to extract a calculus when high in the fistulous canal, whatever the amount of irritation present. In a similar case under the care of M. Robert, at the Hotel Dieu, the attempt of extraction brought about disturbance of the adhesions and fatal peritonitis. In the case of H. E., the fluid obtained by pressure from the parts exhibited, under the microscope, numerous mucous or pus cor-

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(1) Drs. Alexander and Irwine, Medical Times and Gazette, vol. ii, 1876, p. 202.

puscles, but no bile cells or cylinder epithelium; and on using the ordinary test of nitric acid, no evidence of bile existed, or at least biliverdin—corroborative evidence of the entire closure of the cystic duct.[1]

Analyzing the foregoing eleven cases the following conclusions are reached:

As regards the *sex*, eight were females, and three males: a ratio of nearly three to one.

The *age* of the youngest patient is forty-one, and the oldest sixty-nine; showing that the class of affections we are considering is generally confined to middle or advanced life.

From a study of the first symptoms of the cases it will be noticed that the usual ones were pain in the right side, hard and ill-defined tumor in right hypochondriac or iliac regions, and in some cases the pain so trifling that the formation of an abscess in the abdominal wall was the first prominent departure from health to prompt the patient to seek medical counsel. A mistake in the early diagnosis of the cases was quite common: for instance, ovarion tumor, suppurative ovaritis and malignant disease.

The time that elapsed from the first discovery of the tumor until an external discharge occurred, is not stated in all the cases. In one it is stated "shortly;" in one, two months; two, at three months; one at five months, and one at nine months.

In six of the cases a spontaneous ulceration and discharge of the contents of the gall-bladder took place; in one case a blister was used to hasten suppuration; in one Vienna paste, and in another Vienna paste and the knife combined, were used to render assistance.

The duration of time from the opening of the abscess to recovery is not always stated. In two cases it was two months: in three it was three months; in one a discharge occurred at intervals for four years; in case four, the discharge did not cease for six years, when the expulsion of the second calculus had occurred, and in case five, a discharge of fluid continued for fourteen years.

(1) J. Cockle, M. D., Medical Times and Gazette, vol. i, 1862, p. 477.

The usual site of the external opening of the abscess was near the umbilicus, and in the right groin. The number of calculi discharged varied from one to fifty-two.

All but one recovered or reached a comparative degree of comfort. In the fatal case—number ten—death was caused by complications producing ulceration and adhesions of the pyloric orifice and duodenum.

PATHOLOGICAL CHANGES—Obstruction of the cystic duct, when long continued, leads to its obliteration and resulting disuse of the gall-bladder. In the course of time the nutrition of the gall-bladder becomes affected, and prone to inflammation and ulceration, with a tendency to expel its contents through some of the surrounding tissues. In other cases it remains indefinitely hypertrophied and proves a source of constant uneasiness and distress, which may eventually wear out the patient without the intervention of suppuration.

In still another class of cases, the bile is gradually absorbed and replaced by a thin, glairy mucus, which Dr. Bobbs describes as "pellucid and watery," and this appearance of the fluid contents of the gall-bladder will be found in most cases where the obstruction has existed for some length of time. This form of fluid may continue to be secreted by the mucous membrane in more or less abundance, or gradually cease altogether, and the gall-bladder eventually contract and shrivel to a small mass of tissue, or complete obliteration, as in case ten.

It has been known since the days of Haller that no serious inconvenience was caused in cases of congenital absence of the gall-bladder. That organ was recognized as a reservoir for the bile, where it might accumulate until a stimulus applied to the intestinal wall and thence along the ductus communis choledochus should excite the periodical flow. The absence of such a reservoir would cause a more constant flow of bile into the duodenum. Blackman quotes a statement from Baillie's "Morbid Anatomy," 1807, page 251, as follows: "The gall-bladder has also been known to be wanting, from a defect in the original formation. It has never occurred to me to see an example of this kind of monstrosity, but it may be the more readily believed sometimes to happen, as the gall-bladder does not serve any necessary purpose in the body. There are many cases of animals that are naturally without a gall-bladder."

Mr. Canton,[1] demonstrator of anatomy, records an interesting case of congenital absence of the gall-bladder in a female patient, aged sixty-five years, who died in St. Martin's work-house from disease of the brain. The liver was two-thirds its natural size. Another case is recorded (age not stated) where the subject of this rare deficiency enjoyed perfect health, and died in consequence of a fall.[2] There was found to be no trace of a gall-bladder, or of the cystic duct. The yellow tinge commonly observed on the transverse arch of the colon was not present, nor was such color observed in the usual situation of the gall-bladder. The hepatic duct was carefully examined and found to be double the usual size.

At a meeting of the New York Pathological Society, January 25, 1865, Dr. Sands exhibited an anatomical curiosity, in the shape of a liver without a gall-bladder, which was removed from an emaciated, male phthisical dissecting-room subject, aged about twenty years.[3] The liver was very small, and weighed but six and a half hectograms. The hepatic duct was present and of considerable size, as in the case mentioned above, and as is stated to be a rule in such cases.

At the same meeting, Dr. Clark remarked that he had a specimen of what would seem to be almost equivalent to the one just shown, in which the cystic duct was entirely occluded, and the gall-bladder shriveled to little more than a mass of connective tissue. Dr. Gilliam[4] reports a similar case where the gall-bladder was found on post-mortem examination to be wanting—apparently due to former obstruction of the cystic duct. It is stated that the liver was slightly enlarged. In Dr. Clark's case the liver had attained an enormous size. It would be interesting to ascertain if the liver is constantly enlarged in

(1) Lancet, October 16, 1847.

(2) Jour. des Sc. Med., in Phil. Jour. Med. and Phys. Sci., May, 1827, page 143.

(3) New York Medical Journal, vol. i, p. 222.

(4) Clinic, vol. xi, p. 89.

cases where the gall-bladder is destroyed after it has for a time performed its function, as in these two cases. The reverse seems to be true in cases of congenital absence, as shown in Dr. Sand's case, where the liver weighed but six and a half hectograms, and in Dr. Canton's case, where the liver was only two-thirds of its natural size.

A *diagnosis* of enlarged gall-bladder from over-distension by bile and calculi, is quite often a perplexing problem. In some cases a general impairment of the patient's health, and severe local pain, may accompany such a pathological condition. On the contrary, a post-mortem examination has revealed a gall-bladder distended to an extreme degree with bile and gall-stones, and yet the person during life was unconscious of such a condition. This is due to the fact that that organ is not indued with a high degree of sensitiveness, as in the case of vital organs. In my own case (number one) I first mistook the enlarged gall-bladder for an ovarian tumor, and at a later stage I was led to regard it as malignant. In a remarkable case of hypertrophied gall-bladder which fell under the care of the late Prof. J. S. Bobbs, and published in the "Transactions of the Indiana State Medical Society" for 1868, pages 68–73, that eminent surgeon, with a number of other competent medical men of Indianapolis, mistook the nature of an enlarged gall-bladder. It was thought to be an ovarian tumor, as the patient had been informed also by other physicians, but no positive assurances were given, and the mystery was not solved until an exploratory incision was made in the abdominal wall from the umbilicus to the pubes. Two of the cases I have detailed were mistaken for suppurative ovaritis, and another, though doubtful, was thought to be a malignant tumor.

In some cases of enlarged gall-bladder it may be detected by observing its movements as influenced by respiration. The attachment of the liver to the diaphragm causes a certain up and down movement in inspiration and expiration, and the gall-bladder being attached to the liver will, likewise, partake of the same movements. Murchison and Sims lay stress on an intolerable itchiness that accompanies jaundice caused by obstruction of the biliary ducts, as a diagnostic point to distinguish it from ordinary jaundice. It is proper to state that in the class of cases we are considering, jaundice may be wholly absent, or it may be present to a less or greater degree.

In serious cases, where doubt prevailed, there could be no objection, under antiseptic precautions, to making an incision through the abdominal wall in order to make sure of a correct diagnosis.

The *treatment* of this class of affections consists in expectation, and in operative measures. A large number of such cases tend to spontaneous recovery. In six of the eleven cases I have given, the abscess opened spontaneously, and all recovered but one. There can be no doubt that in all cases where the symptoms present no threatening complications or imminent danger, that the safest plan is to trust the case to nature. In some cases, where the tendency is to recovery, the process may be hastened by using Vienna paste, or, in advanced cases, by resorting to the knife, although it must be well ascertained that adhesions have formed between the gall-bladder and abdominal wall, before any incision is made. Aspiration of the gall-bladder has been recommended and successfully executed, but the results have not been as yet very satisfactory. This may be due to the fact that only the fluid contents are removed, while the solid bodies are left behind. In a case of echinococcus of the liver, complicated with a distended gall-bladder, Dr. Bartholow[1] tapped the latter organ and drew off "one deciliter, seven and a half centiliters of dark green and very thin bile. This operation gave rise to very little distress, and was followed by no symptoms." Sims, in a case which will be referred to again, aspirated the gall-bladder, and removed one liter of a dark brown fluid, which was thought to be bile, until disproved by an analysis. In both cases only temporary relief was gained, and the patients died from the primary disease shortly afterwards.

There remains for consideration yet another operative procedure—cholecystotomy.[2] I am indebted to Dr. Keen[3] for the

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(1) Clinic, April 7, 1877, page 158.

(2) A word coined and introduced by Dr. Sims, and derived as follows: *χολὴ*, gall; *κύστις*, bladder; *τομὴ* incision.

(3) Am. Jour. of Med. Sci., April, 1879, page 575.

following historical statement concerning Petit, whose name has been so intimately connected with the class of diseases under consideration: "The earliest reference I have found to the operation is in Petit.[1] Though published in 1790, he states that he read his paper in 1733, and it was already published in the 'Mem. de l'Acad. Roy. de Chir.,' for 1743, i, 255. He quotes four cases operated on, generally for a supposed abscess, in one of which he began the operation, but abandoned it. Two of them died; his own case recovered; the fourth recovered with a fistula, through which a calculus was removed at a later period."

Dr. Thudichum,[2] in 1859, suggested the feasibility of making an incision into the abdominal cavity, seizing the gall-bladder and attaching it to the abdominal wall to secure adhesions between their surfaces and then incising and emptying the contents of the gall-bladder. The operation was thought to be a proper one by a number of English medical men. Notwithstanding these suggestions no one seemed disposed to carry the proposition into execution until the year 1878, when Dr. Marion Sims performed the operation.

The patient was a lady aged forty-five years. The last of November, 1877, she began to suffer from pain in right side, and marked jaundice. Soon afterward the gall-bladder was found to be enlarged, and gradually it increased in size until March 17, when it extended thirteen and three-quarter centimeters below the umbilicus. Its transverse diameter was eleven and a quarter centimeters. At this date it was tapped, as already mentioned. Only temporary relief followed this operation and her general health continuing to decline, cholecystotomy was resorted to on the eighteenth of April.

Dr. Sims,[3] after the patient was etherized, made an incision, seven and a half centimeters long, parallel with the linea alba, over the most prominent portion of the tumor, about seven and a half centimeters to the right of the umbilicus. It was begun two and a half centimeters above the level of the umbilicus and extended five centimeters below it. Considerable hemorrhage

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(1) Maladies Chirurg., i, 282.

(2) British Medical Journal, November 19, 1859, p. 935.

(3) Abridged from his reprint on cholecystotomy, British Medical Journal, June 8, 1878.

was present and was controlled by torsion of the vessels. No adhesions were discovered. After the hemorrhage was arrested, a trocar was thrust into the tumor and the fourth of a liter of a dark brown fluid withdrawn. The gall-bladder—drawn out—was then incised with scissors, to the extent of five centimeters, and cleaned out with sponge probangs. Two more centiliters of a thicker fluid than the preceding, and sixty gall-stones were removed.

As the gall-bladder was drawn out beyond the edges of the incision, this projecting portion was amputated. Here, Dr. Sims admits a mistake, and says were he called to operate again, he would amputate no portion of the gall-bladder, but simply incise it and attach it by sutures to the edges of the abdominal incision.

She survived the operation eight days and six hours. Death resulted "from passive internal hemorrhage, the result of the poisonous effects of the biliary salts on the blood." It is proper to state that the patient was reduced to an extreme degree of physical prostration before the operation was attempted, so that the chances were reduced to a minimum.

On November 4, 1878, Dr. Keen,[1] of Philadelphia, performed cholecystotomy on a female aged sixty years. In the main the operation was the same as Sims' except that no portion of the gall-bladder was removed. In this case also, the operation held out the last and only chance for life, but was delayed too long for success. The patient survived the operation but thirty-six hours. According to Dr. Keen, the causes of death were three-fold: "First, shock; second, secondary hemorrhage; and third, her generally deteriorated condition, due to persistent vomiting and the far advanced disintegration of the liver."

The cases of Drs. Sims and Keen impress the reader with the extreme vascularity of the tissues of the gall-bladder and the consequent extreme necessity for care in all operative measures involving that organ. A simple puncture with a hypodermic syringe for diagnostic purposes in the case of Dr. Keen, led to a considerable hemorrhage into the gall-bladder.

(3) American Journal Medical Science, January, 1879, p. 1349.

Mr. George Brown[1] read before the British Medical Association, for 1878, a paper entitled "On the Treatment of Dropsy of the Gall-Bladder, by Operation, with notes of a Successful Case." A reprint of this paper has been published in pamphlet form, in which the case is termed one of cholecystotomy. While the case is a remarkable one in many respects, I am not disposed to admit that it deserves such a dignified name. If I read correctly the report of the case, it was rather an exploratory incision *to* the gall-bladder, and not *through* its wall, *i. e.*, simply exposing the organ to view. The night following the operation the contents of the gall-bladder escaped through the abdominal wound, and although the process is not stated, it is reasonable to conclude, by ulceration.

I deem it proper to give a fuller detail of the remarkable and successful case—already referred to—of the late Dr. Bobbs. His patient was a lady aged thirty years. The growth of the gall-bladder had been gradual for about four years. The true nature of the enlargement was in doubt prior to the operation, but the patient insisting upon operative measures, accordingly on the fifteenth of June, 1867, assisted by a number of medical gentlemen, Dr Bobbs[2] made the operation. An exploratory incision was made through the abdominal wall, extending from the umbilicus to the pubes. This revealed extensive adhesions of the omentum to the adjacent tissues. The incision was then extended two and a half centimeters above the umbilicus and laterly over the most prominent point of the tumor. Tearing through the adhesions with his fingers he reached a sac about thirteen centimeters long and five centimeters in diameter, evidently containing a pellucid fluid. As no pedicle could be discovered, the lower point of the sac was incised, "when a perfectly limpid fluid escaped, propelling, with considerable force, several solid bodies about the size of ordinary rifle bullets." The gall-bladder was thus emptied, the incisions in its walls stitched and the ends cut closely and returned into the abdominal cavity. The external wound was properly closed.

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(1) British Med. Jour., Dec. 21, 1878, also Monthly Abstract, March, 1879, p. 129.

(2) Trans. Ind. State Med. Soc., for 1868, p. 68, also Wes. Jour. of Med., vol. 4, p. 217.

Her recovery was rapid, without an untoward symptom. In four weeks she was able to ride out.

It is a pleasing duty to pay this small tribute to the memory of our departed fellow and brother. While several European and American surgeons are discussing the feasibility and priority of the operation of cholecystotomy, with as yet no complete results, but only the promise of success for the future, they are astonished to learn that the operation was successfully performed by a surgeon of Indiana, twelve years ago. And so, when the operation of cholecystotomy shall have been placed on a firm and scientific basis, and recognized and acknowledged by our profession—as it assuredly will—and its literature fully considered, the lustre of no name on its role shall exceed that of Dr. Bobbs.

NOTE.—I desire to express my thanks to Drs. A. C. Kemper, J. C. Culbertson, and J. G Hyndman, of Cincinnati, O., and Dr. A. Maxwell, of Indianapolis, Ind., for access to journals which I do not possess. I am also under tribute to the very valuable paper of the late Prof. G. C. Blackman, entitled, "Lithotomy of the Gall-Bladder," Wes. Jour. of Med., vol. 4, p. 83.

PERINEAL SECTION FOR STRICTURE OF THE URETHRA.

J. A. SUTCLIFFE, M. D., INDIANAPOLIS, IND.

Mr. A., farmer, aged forty-five years, of temperate habits, presented himself for treatment of urethral stricture, in October, 1878; had been operated on by Prof. John S. Bobbs, nineteen years ago, for extravasation of urine from stricture. The exact nature of the operation he performed could not be determined. The patient was moderately comfortable for several years afterward, when infiltration re-occurred. Abscesses formed in the perineum, which resulted in urethral fistulæ. Through these a portion of the urine made its escape during each act of micturition. Other abscesses formed, with similar results, his condition steadily growing worse.

Four years previous to the time he presented himself, his suffering was so great that he was compelled to give up his occupation. From that time on he made a business of voiding urine and looking after the sanitary condition of his perineum. When seen last October he was much emaciated and his nervous system worn out and exhausted from pain and suppuration. His perineum and scrotum were perforated by numerous fistulæ. Some opened at the margin of the anus. It was impossible to ascertain the number of orifices on account of the corrugation and contraction of the tissues, and the various conditions of the fistulæ with reference to the closure of some and the formation of others. The extravasated urine had made its way to the right nates, resulting in sufficient loss of tissue to almost destroy its prominence. All the urine was voided through the fistulæ, except occasionally a few drops passed the meatus. The calls to micturate through the day were frequent, and at night as often as ten or twelve times. The urine contained no albumen, nor casts of uriniferous tubules. Pus was present in considerable quantity. There was also present epithelium from the bladder, but none from the ureters or pelvis of the kidneys. With the use of bulbous bougies the front face of the stricture was found to be one and a half decimeters from the meatus, at the bulbo-membranous junction of the urethra.

No instrument could be passed—not even a rubber or whalebone filiform bougie. Dr. Gouley's excellent method of passing a stricture was tried, but without success. It consists of injecting the urethra with oil and filling it with filiform bougies, in order to obliterate the irregularities at the orifice of the stricture and allow one of the instruments to make the proper engagement and pass on to the bladder. It was evident that no procedure aside from perineal section offered any chance of recovery. The difficulty recognized by all authority, of performing the operation without a guide in the bladder, was a strong inducement to make every possible effort for the passage of a filiform bougie. The patient was placed upon the use of a tonic, and the urine rendered bland with acetate of potash. Every third day, for three weeks, a faithful effort was made to pass a guide. Larger instruments were passed down firmly against the face of the stricture, in order to facilitate by distention, and the absorption following it, an admission into the bladder.

All efforts were unsuccessful. A filiform guide could be passed down to the stricture and made to come out at a fistula near the anus. This communication between the urethra and fistula probably accounts for the occasional passage of a few drops of urine from the meatus—the urethra being occluded at the point of stricture. Surgical writers coincide in the statement that occlusion is exceedingly rare; still, in the present case, the diagnosis is probably correct. As a last resort, it was decided to administer an anesthetic, and make another effort at the introduction of an instrument, and if this failed to proceed at once to the operation of perineal section without a guide.

The patient took six and a half decigrams of cinchonidia in capsules an hour before the anesthetic was given. All attempts to pass a guide were unsuccessful, and with the assistance of Doctors Wands and Watson, the operation was performed as follows: The patient was placed in the lithotomy position and Gouley's catheter staff. number ten, was passed down to the front face of the stricture. An incision, six and a quarter centimeters in length, was made in the median line of the perineum between the anus and scrotum. It was slowly and carefully carried down to the end of the staff, and the urethra opened at that point. An effort was then made with a fine probe-pointed director to find an opening leading to the bladder. Failing in this, the incision was prolonged toward the neck of the bladder, keeping exactly in the median line. The left index finger in the rectum served to keep in mind the bearing of the different structures, and to guard against injury to the pelvic fascia. If this structure is opened, all testimony is agreed as to tho probability of urinary infiltration and death from cellulitis. Frequent efforts were made to pass the probe, and with the failure of each, the incision was carried a little farther. When near the apex of the prostate the staff was withdrawn, and a number one probe-pointed silver catheter used in its stead.

After carrying the incision still farther the catheter was believed to have reached the bladder. A slender director was then passed along the side of it, and with the separation of the two, a gush of urine announced that the bladder was reached. The catheter was then withdrawn and the opening enlarged on the director. A larger director was then introduced, and guided by it, a number twelve sound of the large or American scale was passed through the meatus into the bladder. Number twelve was withdrawn and number fourteen easily introduced. The sound and director were then removed and a suppository containing two centigrams of morphia was passed into the rectum. The patient was then placed in bed. The hemorrhage was not great, but there was a constant oozing of blood from the fibrous mass which had been divided, making it impossible to get a view of what was being done. The stricture involved the membranous portion of the urethra. No tube or catheter was left in the bladder to carry away the urine—it was allowed to pass freely through the cut. The next day the patient was free from pain and had rested well. Temperature, one hundred; pulse, eighty per minute. The temperature never rose above the point mentioned, and the condition of the patient progressed favorably. Acetate of potash and quinia were the only remedies used.

On the fourth day he was chloroformed and a number fourteen sound passed through the urethra into the bladder, guided by a grooved director introduced through the cut. On the sixth day a few drops of urine passed through the meatus. On the eighth he was again chloroformed and the same sound introduced in the same way. From that time on number fourteen was used every fourth day without much pain—no chloroform being required. On the thirty-eighth day he rested through the night without voiding urine—something which had not occurred to him before for twenty years. As the cut steadily healed the urine flowed more freely through the urethra. The patient left the city during the tenth week after the operation. At that time the cut had healed and all the old orifices closed, except one at the anterior portion of the scrotum. Through this a few drops of urine would pass every day or two. It was contracting down and would have closed soon had the urethra been kept well dilated. The urine flowed freely through the natural channel, and number fourteen glided easily into the bladder. The patient was in every way comfortable, and voided urine only four or five times in twenty-four hours. It was my intention to have continued the use of the sound every fourth day until he was entirely well—then to have taught him to introduce number eleven, and advised its use once a week during the remainder of life.

The usual time required for the cure of stricture by perineal section is six weeks.

Dr. Otis reported a somewhat similar case to the above in 1873, with the exception that it was not of so long standing. He used the sound every sixth day and his patient recovered in six weeks. The greater length of time required in the present case is accounted for by its long standing, loss of structure and consequent induration and contraction of the remaining tissues.

In conclusion, I believe it is an error to leave a catheter or tube of any kind in the bladder, with a view of carrying off the urine and allowing the wound to heal. Gross, Erichsen and other prominent authors still recommend that something be used for this purpose. The same idea prevailed until recently with reference to using a tube after the operation of lithotomy. As late as 1870 I saw Prof. Mussey, of Cincinnati, after removing a stone, fasten a tube in the bladder to carry off the urine. The presence of healthy urine does not interfere with the healing of the wound. If it did, it would be impossible to prevent it from passing along the side of the catheter to the incision. It is true that Hamilton, in his new and admirable work on surgery, recommends to leave a catheter in the bladder for twenty-four hours, then to withdraw it and leave off its use for a week or ten days, and afterward to introduce it daily.

The following abstract of a letter which he had the kindness to write to me, shows that he has but little, if any, preference for the catheter:

NEW YORK, MAY 7, 1879.

J. A. SUTCLIFFE, M. D.—*Dear Sir:* Immediately following the operation, of which you speak, there occurs some swelling, and a catheter or sound retained for twenty-four hours "moulds" the canal somewhat, or enables it to retain its form; it also diminishes the possible chance of urinary infiltration, which can only take place before lymph is poured out. Of course the latter accident is not very liable to occur, nor is the moulding of the urethra very important. I recommend the catheter, or sound, after ten days, to keep the channel well open, and when it is commenced, I think for a time it is better to use it daily, as by so doing it will be introduced more easily. There is little to choose between the method employed by myself and that mentioned by you. Probably either would in a majority of cases bring about the same result. It is certain that either of these methods is better than leaving a catheter constantly in the bladder, or introducing a catheter or sound daily from the beginning. Respectfully yours,

FRANK H. HAMILTON.

Sir Henry Thompson, in his work on stricture, advises that a catheter be left in the bladder for forty-eight hours after the operation, then to introduce a sound every four or five days.

He states that he has never performed perineal section without a guide; with it he has operated thirteen times without a fatal result.

Keyes has been so fortunate as to operate six times without a guide, and twenty times with it, without losing a patient. No tubes or catheters complicated the after treatment, the use of the sound every few days being all the means employed. This improved method of using a sound every few days, to the exclusion of other instrumentation, belongs to Van Buren. To him the profession is largely indebted in many respects for the high state of perfection to which the science of genito-urinary surgery has been developed. He has doubtless performed perineal section oftener than any living author. From a letter which I recently received from him and Keyes, I regret to state that he has no record of his cases, and does not know himself how often he has operated. With reference to the danger, he writes as follows: "I have no recollection of losing a case of external urethrotomy with a guide, from the operation, or indeed at all. But, without a guide, it being often a desperate attempt to save a hospital patient who had neglected himself recklessly through hard drinking, the mortality is considerable, apart from the difficulty and danger of the operation."

The presence of catheters, as shown by his investigations in Bellevue and New York hospitals, tends to prevent the closure of the wound and fistulæ by the irritation they produce. "Their use is disagreeable to the patient, liable to produce cystitis, ulceration of bladder and urethra, and inflammatory thickening of the whole urethral tract." It is unnecessary to the welfare of the patient to worry the urethra with instruments. All that is required is to keep the urethra well dilated by introducing a full sized sound every four or five days and the orifices will close.

The following are the indications for perineal section:

1. Impassable stricture: All those cases which baffle perseverance and skill in the attempt to pass an instrument.
2. Cases of long standing where the tissues of the perineum are indurated and traversed by numerous fistulæ.

3. Infiltration of urine in considerable quantity from stricture, demands external urethrotomy, with the view not only of arresting the extravasation and diminishing the danger to life, but also as a means of curing the stricture at the same time.

A CASE OF FRACTURE OF THE CERVICAL SPINE.

R. E. HAUGHTON, M. D., INDIANAPOLIS.

Was called to see Mr. B., St. Mary street, September 20, 1878, early in the morning. Found a young man twenty-one years of age, having been down in a twenty-foot well for the purpose of cleansing it, assisted by his father, who worked the windlass, at the top. By some accident the bucket—which was supposed to weigh, when loaded or filled, about fifty pounds—when near the top, broke from its attachments and fell the whole depth upon the young man in the well, striking him upon the occiput and back of the neck, cutting a flap wound in the scalp and marking the neck. The head was covered with a soft hat, and in making an effort to break the force of the blow he bent forward, flexing his head upon the trunk and arching the trunk, his right hand being thrown up on the back of his head and nearly severing two fingers of the hand.

He was knocked down in the well, helpless and paralyzed in his lower limbs (paraplegia) and partially paralyzed in his upper limbs, yet being able to use his hands and arms during the entire illness, the right arm suffering more than the left. He retained his consciousness perfectly. Examination showed some injury, serious in character, done to his nervous system, and the clearness of mind, the correctness with which he answered questions—taken together with the paralysis—indicated some injury in the cord. There was no fracture of cranium, and the spine at first did not seem to show the injury which existed, as he had power to rotate his head and elevate it without pain or inconvenience. There was much shock, and yet I could not be satisfied that the shock was all of the trouble. I could not detect crepitus in the cervical spine, yet upon deep pressure there was a point of tenderness and some pain.

DIAGNOSIS—I diagnosed a fracture of the cervical spine from the fifth to seventh vertebra, yet had no absolute signs of fracture. He was removed to his home, and I continued to watch him, though I told his friends he would eventually die, and advised his removal to the city hospital, which was finally done, though I watched him for about three weeks. He retained a fair appetite and slept pretty well most of the time—his mind clear and accurate. He was cross and spiteful towards his friends, and exercised his will with wonderful obstinacy at times. He died, I think, in about six or eight weeks from the time of his injury. There was paralysis of the bladder, so that his urine had to be drawn day after day. His bowels would move, and could be readily acted upon by remedies. So that while the fact of almost complete paralysis of muscular power of limbs existed, still there was the action of circular fibres, or involuntary action of circular fibres.

The diagnosis in fracture of a vertebra is always doubtful, because it is removed from your touch and being so deeply seated it can not be examined. If the fracture occur with dislocation of the injured portions above the third vertebra, death most commonly speedily ensues from injury to the origin of the phrenic nerves, producing paralysis of the diaphragm, thus interfering with the respiration.

TREATMENT—1. Shall we resort to surgical management and trephine the spine?

2. Is it dangerous to use the trephine and expose the cord to the action of the air?

In reference to the first proposition, if we are satisfied of the existence of a fracture, and the evidences show us that the cord is compressed, it is justifiable practice to cut down and trephine and remove any portion of bone which may be broken or detached. Why is this practice justifiable?

1. Because we know that if compression or division of the cord occur, by the depression of a portion of bone, that if not removed, the patient has no chance of recovery, and death must with this history inevitably occur.

2. Again, it is true that the compression may occur, or a partial division of the cord may occur, yet, if pressure is removed, its lost functions may be restored as reunion of injured structure takes place.

3. The removal of portions of bone may be followed by production of new bone, as in my case the patient lived long enough to get union of a fracture of one side of the arch of the fifth cervical, and an effort at repair upon the other side.

For these reasons it would be right to use the trephine, or elevate depressed bone, if found to be pressing upon the cord. And there is justification in this, that several cases have been thus treated, and no bad effect has been produced.

In looking up the history of cases, a curious one is reported of syphilitic caries of the spine, in which an Italian surgeon removed, through a deep ulcer in the throat, the body of the third cervical vertebra, leaving the cord bare. The patient recovered without any disturbance in his nervous history.[1]

Another case: Part of a cervical vertebra was removed by another Italian surgeon, and the patient quickly recovered.[2] Exfoliation of atlas in three cases, one by Wade, two others by Prescott Hewitt, were reported to the Royal Medico-Chirurgical Society London, 1849. All recovered.

What are the causes of death in case of a fracture of spine? First, pressure, which continued, produces abolition of the functions of the cord, which is first a conductor of impressions or sensations. Secondly, it is a generator of influences which are nervous, and which we call reflex, which are also transmitted to the brain. If, therefore, the spine is fractured high up in the cervical region, if the cord be crushed, death will occur instantly or remotely, for various reasons: First, the effect on respiration, which is to arrest it; and, secondly, its influence on the heart action, which is similar to a powerful

(1) Gazette de Medicale, Paris, 1832. (2) Gazette de Medicale, Paris, 1850.

galvanic shock, paralyzing the power of the heart. The heart is dependent upon two influences for its power: First, upon the integrity of the respiratory tract of the cord; secondly, for the integrity of the ganglions within its own structure, and which derive their power from the ganglionic centers of the sympathetic. But if the fracture should occur, as in this case, in the lower part of the cervical region, or the upper part of the dorsal region, then the effect is quite different. If, in any such case, the cord is simply cut or crushed, yet no pressure could be exerted upon it by depressed bone, the patient may recover. For it is a well settled principle that nervous tissue may be restored, its integrity of function restored, and recovery take place. But if we should find the cord divided, wholly or partially, so that restoration does not or can not take place, death will be unavoidable. If there is pressure only exerted upon the cord, as in the case here given, then if the pressure can by any means be removed, life may be saved; and it is in such cases the subject should be submitted to the operation of trephining—elevating or removing depressed or fractured bone. As we recede further from the important nervous centers, viz, brain and oblongata, there are still greater chances of recovery, as, if division of the cord were more or less complete, recovery might occur; and if only pressure exist, then the chances of recovery are still greatly enhanced by an operation.

RESULTS OF PRESSURE AND EXCITATION UPON THE CORD—First of all, impairment of nervous power; secondly, impairment of circulation, nutrition and secretion in all the parts supplied by the cord below the injury. As evidences of these conditions we have, first, paralysis of power of motion and sensation, or either; secondly, impairment of the blood supply, so that sloughing occurs at points where pressure is produced, and changes in the secretions from the kidneys, and the tissues of the bladder, large mucous discharges, including phosphatic deposits, with change in the character of the urine, even while in the bladder. Sloughs are not the result of pressure alone, for if the nervous system were not injured, sloughs would not occur; hence the injury of the cord has some relation to the sustained vitality of the tissues. When pressure upon the cord is sustained for a period, the sloughing occurs, and extension of inflammation to the membranes of the cord may occur, producing an acute and quickly fatal meningitis. Hence it is very important to use such measures as may enable us to relieve the pressure upon the cord, thus guarding against the consequences which so commonly follow such injuries. Having alluded to the changes which occur in the mucous membrane of the bladder, and in the action of the kidneys, there are phenomena depending upon the injury to the cord, being, if pressure exists, an excitation or irritation of the cord, and is not the result of a division of the structure of the cord, for section, as shown by experimentation, is not followed by these alterations. There are additional causes of death depending upon the irritation of the cord. "One is a myelitis, an increase in the amount of cerebrospinal fluid, and heart impairment, with decrease of blood pressure, if the injury exists high up in the cord. It is not a section of the cord that produces these causes of death, but an irritation by the pressure of broken bone."[1] The removal of some parts of the vertebra may be followed by production of new bone. In this case there was so much effort at the production of bone that the fracture upon one side of the arch was united firmly, showing that even while the pressure upon the cord was not removed during the life of the individual, still there was an effort at cure, and union occurred. Hence we conclude, under favorable circumstances, if bone were removed even in considerable degree, it might be restored. Cases are on record in animals, and considerable effort is made in this direction.

CASES ON RECORD.—Sir Astley Cooper is credited with saying that "If we could save one life in a hundred by it, we should deserve well of mankind; and if any good should grow out of it, viz, trephining, Henry Cline has the merit of proposing it." In this latter statement perhaps Sir Astley is mistaken, as many surgeons had made the operation long before Cline.

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(1) **Brown-Sequard.**

The first case of trephining of the spine in man which was successful is given by Louis, the most celebrated surgeon of the eighteenth century. The patient was cured, excepting a slight weakness in the lower limbs.

The next case on record is given in the "British and Foreign Medical Review" for 1838, page 162. The posterior arch of the bone was raised, compression relieved, and the patient recovered.

The third case is published by Dr. A. B. Smith, of Kentucky, in the "North American Medical and Surgical Journal," July, 1829, page 94. The diagnosis was compression of cord by broken bone; operation confirmed the diagnosis and partially relieved the patient.

In 1822 a case was admitted to St. Thomas' Hospital with fracture of the ninth and tenth dorsal vertebræ. Recovered partially the voluntary power over limbs, bladder and rectum, but died from intercurrent inflammation of peritoneum and enteritis. Tyrrell's case was one of simple pressure, and so far was very favorable in the results obtained.

Dr. Rhea Barton, in the Penn Hospital, 1824, operated to remove paralysis, and found the arched portion of the seventh cervical broken off and producing pressure on the cord. The seventh and eighth dorsal were dislocated from each other.

DISCUSSION OF SURGICAL HISTORY—In fracture of the vertebra, with pressure, as in injuries to the vault of cranium, it has been recommended to cut down along the spinous processes and remove the arch of the broken vertebra, or any portions of bone. This operation has been performed by the younger Cline, Wickham, Attenburrow, Tyrrell, Holscher, Smith, Rogers and many others, but while our authority (Chelius) reports every case as unfortunate, yet, experience has shown since, that many cases have been either relieved or cured by an operation. Sir Charles Bell was opposed to Sir Astley Cooper, and regarded it as a means of alleviating only the unfortunate condition of the patient.

Brodie and Abernathy were not favorable to the operation, and Brodie says: "If the whole or nearly the whole of a vertebra be driven forwards, the depression of the posterior part of it will, of course, occasion a diminution of the spinal cord, but the removal of any portion of the vertebra which is accessible to an operation will be of little avail." But these objections of the celebrated surgeon, in the light of present experience, will not be accepted, and do not apply to the kind of injuries for which such an operation is proposed.

There is a reasonable, and it may be considered a plausible objection to the operation, viz, "That we can not, prior to an operation determine whether the spinal cord is compressed, or divided, or crushed, or whether the symptoms are the result of pressure from extravasation of blood." But this objection may be urged, and would hold good in cranial fracture with depression, as no one can certainly tell what mischief may be done beneath the fractured and depressed bone; yet, if the membranes be torn and the brain broken up and pressed out, no one would feel it to be his duty to allow such a condition to continue, and would not hesitate to remove the bone, no matter what might be the condition of the brain below. The analogy for treatment is very close in these supposed cases, and such treatment would be regarded now as admissible, but would be most imperatively demanded, and Professor Jaeger says, "The earlier it is performed the better."

OPERATION ON THE SPINE—If we reflect upon the nature of the vertebra, in the different portions of its anatomical divisions, the muscular structures, which lie upon either side of the column, the depth to which we must go to expose the arches of the different zones of the column, we shall see that it is a much more difficult operation than trephining the cranium. An incision should be made long enough to give ample room for work, and long enough to displace laterally the muscular masses, the middle of it being opposite the injury. A small crown trephine and Hays saw, an elevator, bone forceps, are instruments most necessary after the proper incision is made. The surgeon should remember he has a difficult and critical operation before him, which may involve, in its results, the life or death of the patient, and should proceed cautiously and yet steadily, to examine the exact relations of the structures, and thus determine the surgical pathology upon which he bases his further progress. If the bone is broken into pieces, they should be removed; if pressing upon the cord, removed or elevated; if driven into it, directing it removed, and thus coming to the next step of the operation, which is to remove, if any, coagula of blood, upon the sheath of the cord, or around it being within the vertebral canal. If the membranes are torn or ruptured, the condition of the cord within will be observed as well, and thereby can be determined a probable prognosis as well as definite knowledge. If nothing but pressure is exerted, when removed, the cord will soon regain its shape and resume its functions, and the consequent paralysis is sometimes very soon relieved. Thus cases are to be examined, operated upon and dressed with due care, for successful results.

SOME DISEASES OF THE EYE,

IN WHICH OPERATIVE INTERFERENCE IS INDISPENSABLE.

J. L. THOMPSON, M. D., INDIANAPOLIS, IND.

The few words which I have to present are not such as book or periodical reviewers look upon as suitable in the transactions of a state medical society; but knowing full well the importance of the subject, and also being aware that the time of a busy general practitioner is usually so taken up with the many other branches of medicine which seem to imperatively demand his attention, that when eye cases present themselves he has but little time to peruse voluminous text books in order to rightly diagnose and consequently properly treat such cases; and as it is a well known fact that eyes are liable to be lost by the failure of the physician or surgeon in certain affections to recognize the necessity and promptly urge the importance of early operative interference to ward off total destruction of the same, one is therefore justified in bringing the following points before such a body of medical gentlemen as the one which I now have the honor to address.

Surgical operations about the eye are usually dreaded by the patient, who will never consent to their performance until the attendant presents the matter in the clearest light in all its bearings, and urges the same in the plainest and most positive language, explaining their necessity and showing the great danger the organ is in without such interference. The operations to which your attention is invited, like those for strangulated hernia, tracheotomy, etc., are frequently put off until it is too late, and consequently innumerable eyes are lost which might have been saved by timely warning of the absolute necessity for such surgical treatment. One can readily perceive numerous causes for this dangerous procrastination; some of them are as follows: The patient is unwilling to have a knife or needle thrust into his eye, supposing, as he usually does, that a much greater risk is run thereby than by the use of "drops." Then, the physician is not sufficiently positive as to the necessity therefor, or he simply mentions it to the patient, stating that it may eventually have to be performed, and the case may fall into hands less competent, and when he sees it again the golden opportunity may have passed forever. Or, on the other hand, he may fear that if he operates upon an eye which the patient still sees with, and a bad result follows, he may be accused of putting it out by meddlesome and uncalled for interference (and you well know that there are some localities where even one's neighboring practitioner would not lose sleepless nights in the effort to suppress any such erroneous notions in the minds of patients of rival physicians). Another cause may be seen in the fact that eye cases do not occur sufficiently often in the practice of some physicians to enable them to thoroughly diagnose the case and immediately recognize the necessity for operative interference.

I hope, however, you will not think that this is presented in any captious spirit; that you lose eyes by sins of omission, etc. My object, on the contrary, is to, in as few words as possible, point out the way by which many may be saved by some comparatively simple and easily made operations, which if properly performed are almost absolutely harmless.

Ulcerative Inflammation of the Cornea—Many gentlemen present, doubtless, can call to mind one or more cases of ulceration of the cornea, primary or consecutive, which have given them much trouble, their patients much pain, which have terminated in large central leucomata (dense opacities of the cornea) or total destruction of the eye, in spite of their best directed efforts to prevent the same. Such are some of the cases which we wish to speak of to-day, and which have been saved by a comparatively trifling operation. No jumped at or hastily gathered conclusions after the treatment of only a small number of cases will be given you, but after an experience of years in the treatment of scores of such, can one come before you with some very positive results.

Some very grave forms of ulceration of the cornea frequently, as you are aware, follow intermittent or remittent fevers, and they as a rule, most of them, are very amenable to the simplest kind of treatment, and occasionally to no treatment at all, further than that usually resorted to for the purpose of breaking up the paroxysmal tendency of the same, and subsequently preventing its return; yet, there are a small per cent. of these cases which if so treated will either ulcerate through and destroy the eye, or as above mentioned, terminate in dense opacities. In such cases a clean incision through the base of the ulcer, if central, will not only immediately set at rest all ciliary irritation, which is usually so tormenting as to deprive the patient of rest and sleep, but it will immediately start the reparative process and reduce the opacity to the faintest line possible, which in many cases disappears entirely after the expiration of a few months. Said operation also usually admits of one's patient pursuing his daily avocations in from two to four weeks, instead of as many months, as is usually the time where the operation is not made; and I have noticed further, that after the operation a relapse is seldom experienced.

Ulcus Corneæ Serpens (Saemisch) is another form of ulceration of the cornea which usually follows an injury; one to which stone-cutters are peculiarly liable. I have several times seen it follow a blow from a grain of wheat thrown violently from a threshing machine, from the blow of a whip-lash, and from the stroke of a small branch of a bush or tree received while one is riding through dense timber in the rear of a companion. The symptoms are briefly as follows: At first, for a few hours the eye is quite painful, as though something was in it, lachrymation is copious, a pink zone is to be seen around the margin of the cornea and an intolerance of light is complained of; vision is not usually much impaired at first, except from the filling of the eye with tears, and if one inspects the cornea soon after the injury he will fail to notice any cloudiness of the same. The patient (especially if he be a stone-cutter who is accustomed to blows upon the eye) soon goes about his business, and it is not until several days after the injury that he becomes alarmed. He then finds that he is blind, and when his friends look at his eye they see a creamy-looking mass in the center of the cornea. His pain now becomes quite severe, often so great as to prevent his assuming the recumbent position for weeks, his appetite fails, and his limbs often become quite edematous from his debility and vertical position.

On inspecting such cases one usually notices a deep central ulceration, the edges of which are abrupt and the center filled with dead, dirty, greyish-yellow corneal tissue; on a deeper inspection one will usually find the iris inflamed also, which can be seen at a glance by one accustomed to the examination of eyes, and which can be easily ascertained by those who are not, by the lack-lustre appearance of the upper part of the same. I speak of the upper part because, in most instances, the lower part will be observed on account of an hypopion (pus in the anterior chamber). One will notice also (if the ulcer is not too large, thereby preventing a view of any portion of the pupillary margin) that the pupil is fixed and not movable when covered and uncovered. If seen the next day, the ulcer will be found larger and the hypopion greater, and so it will go on creeping like a serpent, until death of the whole cornea has taken place and total destruction of the eye, visually. Nor is this all, for in addition to the loss of sight and the unsightly white eye, other troubles often manifest themselves sooner or later. The increased intraocular tension caused by the ciliary irritation often produces staphyloma with its accompanying evils, or the glaucomatous process with its Tartarean tortures may at any time be set up, or if this Rhadamantine fiend has been successfully passed, Tersiphone may appear with her whip of scorpions in the shape of a sympathetic trouble in the other eye, which, once started, never relaxes its fearful hold until the last vestige of sight has disappeared from the other eye.

In the treatment of such cases the usual course was to leech, apply hot fomentations (cold nearly always aggravates such cases), atropine, compress bandage, etc., etc. (of course I leave all irritants, such as lead, zinc, silver and so forth, out of the question, as no sane person would ever think of resorting to them in such cases); but, unfortunately the fewest number were saved by these means, and it remained for Saemisch to advocate and practice this method of cutting through the ulcer, as well as to give this peculiar form the name of Ulcus Serpens, and it seems to me that this operation in these cases has accomplished as much, and has conferred as great a boon on these peculiar ulcerative affections, as has the immortal Von Graefe's operation of iridectomy, in cases of that formerly dreaded affection known as glaucoma.

The method of operating is as follows: An expert may dispense with chloroform, the speculum and fixation forceps, unless he has a very unruly or nervous patient, when it is better to resort to an anesthetic. If the latter is used, place the patient on a table (as one has much better control of himself while standing than while stooping over a bed or lounge), take position at the head of the patient, for the right eye as well as for the left, if you are ambidextrous—if not, on his left side for the left eye—then, with a Graefe's cataract knife transfix the cornea behind the ulcer, being sure that the puncture and counter-puncture are in transparent corneal tissue; then, with one, or at most two movements of the knife, cause it to cut its way out, when it will be followed by a gush of aqueous humor, and the pus will also be evacuated. One should be very careful not to use any force in cutting forward or outward, but should suffer the knife itself to accomplish this; should rather, on the other hand, keep the dull back of the instrument in the wound, and suffer the aqueous to trickle off slowly, for fear of a rupture of the lens capsule from the sudden evacuation of the contents of the anterior chamber. After this, put a drop of a two and a half decigram solution of atropia into the eye, and over it a pressure bandage. See it again the same day and renew the dressing, which you will continue to do twice a day for two or three days more; your-self, if needed, but a nurse may do so if no pain is experienced. In my first twelve operations, I followed the advice given by Saemisch to the letter, and sprung the wound, as he did, once and sometimes twice a day, with a fine probe, for four or five days; now I rarely have to do anything more than make the one incision, and use atropine for a week or two. This practice of opening the wound is not needed, unless the tension is increased, or the eye becomes painful; in such cases, of course, it is indicated, but they will be found to be very rare. On trying this operation one will be surprised at its magical effect. The patient, if he has taken no chloroform, will complain of a violent neuralgic pain in and around the eye, the teeth, etc., which is caused by the intraocular pressure forcing lens and iris against the cornea. This, however, will last for but a few minutes, and will give place to the most pleasant feeling imaginable. He that suffered "the tortures of the damned" and procured no rest before, will be transferred from that part of the realm of Dis where Ixion revolved and Tantalus was provoked to the delights of Elysian fields. Sleep will again visit his couch, the eye will cease to ache, the iris will soon dilate, the aqueous chamber will soon refill, and the cornea will clear up in most cases so that not even a vestige of the opacity is ever left to mark the scenes of the former struggle with the Titans.

OCCLUSION OF THE PUPILLARY MARGIN OF THE IRIS—This is another condition which demands speedy operative interference, but of a different kind from that above mentioned. The danger of this condition is much greater than in the other case, because it so frequently escapes one's notice until after it has caused mischief irreparable. It always follows inflammation of the iris, but unfortunately iritis is a disease which is more often overlooked, or treated for something else, than is any other malady of the organ. Nor is the physician always to blame for this; for it is a well known fact that many persons treat themselves, or are treated by their neighbors, either to avoid expense, or because they have more faith in the simple remedies of these disinterested persons; and again, when a man has had no education in medicine he has remedies which never fail. The result is, that many a person with a sympathetic iritis tries first, "Thompson's eye-water," "Petit's eye-salve," sugar of lead, vitriol—blue and white—chamber lye, snake's oil, etc., etc., until their "eyes got well"—looked well, at any rate, and they could see well also. But had such an one been examined under the influence of a mydriatic, one could readily have detected the seeds of destruction already sown, in the shape of a slight synechia posterior. Sooner or later, after riding or driving out on a cold, damp, windy day, or after sitting in a draft, or other exposure, the eye again becomes inflamed; the same remedies are resorted to, and the eye again gets well to all outward appearances; but an examination, as before made, reveals the fact that one or two additional points of adhesion between the iris and anterior capsule of the lens have taken place. Again does it become inflamed and again recovers, each time adding to the number of adhesions, and broadening those already in existence, until finally the patient notices that his vision is not so good as it once was, and that the eye is more "weak" than before. He also discovers that a very little irritation causes it to become more red than the other eye. This condition may remain for months. Weaker and weaker does he find the eye, poorer and poorer becomes the vision, until it is reduced to simple perception of light, when he consults his physician. On inspection one will find the pupil filled with a false membrane, which is frequently mistaken for a cataract. Occasionally we meet with cases where the synechia is total, and yet there is a sufficiently clear small space which enables the patient to see very minute objects close to him, and these are the ones which are the most dangerous, from the fact that the patient can not realize his condition until he is apprised of it by the examiner, or until his eye is lost beyond recovery. Did they all become bridged across by false membranes, and blind the patient early, before disorganization of the eye had taken place, it would be far better for the patient, as we could then save the eye by a timely operation; but when the synechia is total, and the vision remains good, the aqueous humor is secreted in unusual quantity behind the iris, in front of the lens, and the iris is pressed forward like a miniature dome. Now, as the pupillary margin of the iris is glued tightly to the lens capsule, preventing an interchange between the fluids of the posterior and anterior aqueous chambers, a constant tension is kept upon the ciliary body and choroid, which eventually results in the total destruction of the organ.

The question now arises, how is one to prevent such a condition from taking place? The answer to this necessarily demands a few words as to the local treatment of iritis, but as this would enter us upon a vast subject, I will simply say, one's first and last thought is, or rather one's great aim is, the prevention of closed pupil. It can not (except in the fewest number of instances) be accomplished by constitutional treatment, although no one would think of treating iritis, whether syphilitic, rheumatic, or other variety, without constitutional remedies; it can only be brought about by the aid of a mydriatic, of which belladonna or its alkaloid atropia is the best.

But, suppose one already has one or more synechiæ from a former iritis, how remedy it? Apply one drop of a two and a half decigram solution of atropia to the eye twice a day for two or three weeks, when, if the adhesions are not broad, they will be stretched and narrowed until they give way, and nothing but a spot of brown pigment on the capsule of the lens will remain. If this plan fails, use equal parts of atropia and eserine, or if the latter can not be procured readily, make a solution of calabar bean extract; apply this twice a day for a few days and you will notice the primary effect will be to contract the pupil to the size of the finest pin's head; then in from two to four hours the atropia will gain the ascendency and dilate the pupil, and it will keep dilating until you again put in the solution; and so these wrestlers will keep on pulling and tugging both ways until they break up said adhesions, if possible. If, however, they be too broad to detach in this way, one must put the patient on his guard, requesting him to call if he has any trouble at any time, and by all means have it examined again before many months; or else one may proceed at once to detach them either with a small dull iris hook, or according to the method of Passavant, with iridectomy forceps, the latter being by far the better plan, as one does not thereby touch the capsule of the crystalline lens as he does with the hook; and as it is a well known fact that sometimes the least touch is sufficient to rupture the same, one would then make matters a thousand times worse by producing a traumatic cataract.

The way to make Passavant's operation is as follows:

With a lance-shaped knife puncture the cornea just at its apparent margin opposite the synechia, then introduce the forceps (iridectomy forceps without barbs; if barbed they are liable to tear the iris and they are less easily withdrawn and are very liable to bring a portion of the iris out with them), grasp the iris close to its pupillary margin and draw upon the same until the adherent portion is seen to be loosened, then relax their hold and withdraw them. If two points of adhesion are found close together, make the incision between them, when by slight lateral, lever-like movements of the forceps, first one and then the other may readily be grasped and loosened. If more than two exist, it is better to wait until the eye has entirely recovered from the first before making the second operation, which can be done usually in from two to five weeks, and so on until every attachment is broken loose. In making excursions with the forceps one should be very careful always to keep their points away from the pupillary space. After each operation one should resort to a mydriatic, so as to prevent any renewal of the synechia.

In cases where the pupil has become closed by means of a false membrane, or where the synechia posterior is total, or should the tension of the eye during any of the above troubles become decidedly increased (T+), then one should use no time in treatment short of an iridectomy. While on this subject of intraocular tension, please pardon me for urging the constant practice of palpation in all intraocular diseases. Try it on sound as well as on diseased eyes; place the palmer surface of each index finger upon the eye-ball, and gently press from one to the other finger; then compare the suspected with the sound eye; or, if both eyes of the patient are supposed to deviate from the normal tension, pressure on one's own eyes will often serve one's purpose. Constant practice with this test will soon enable one to recognize the slightest deviation, whether it be increased (T+) or diminished (T—). When an iridectomy is needed in these cases, do not tell the patient that it may eventually have to be made; but that delay is highly dangerous, and that sooner or later the eye will be totally lost.

Allow me briefly to mention two similarly affected patients from the same small county seat in this state. One was a Mrs. D., aged twenty-four years, who was brought to me by a physician of this city, whom she first consulted. She was first seen by myself March 10, 1872; "had suffered occasionally with her eyes for over two years, but had no pain now; simply came to me to see about her dimness of sight," which, on examining, I found $=\frac{20}{\text{LXX}}$ left and $\frac{1}{\text{C}}$ right eye. The right had a closed pupil with a false membrane in the same, and a minute opening at the upper outer edge of the false membrane, which permitted just a few rays of light to reach the retina. The other eye had total synechia posterior; but as there was no dense false membrane across the pupil her vision, as before mentioned, $=\frac{20}{\text{LXX}}$, which is very good reading vision. Indeed, one with such an acuity of vision can usually read the finest print at six or eight inches. Tension, normal. I urged the necessity of operative interference; told her in the plainest possible language that she would eventually become blind if it was not done, and that the operation was comparatively free from danger; that, when properly performed, we lost but one in five hundred cases; but I failed to convince her of its necessity, and saw nothing further of the case until five years after my first examination. I had learned, however, that she had been in the hands of several, who had used several remedies, hoping to benefit her without an iridectomy. When she again called, it was for the purpose of having the operation performed; but unfortunately the case was hopeless. Her eye-balls were as soft as bladders of water, and one could see depressions in them at the insertion of each of the recti-muscles. Her vision =o; she could not even tell the difference between light and darkness.

I now contrast the above with the following case: An attorney, aged fifty-one years, from the same town. This was a very rheumatic patient, very near-sighted, besides which he had nystagmus (oscilation of the eyes), which doubtless followed congenital amblyopia. He had been a sufferer for many years, occasionally from iritis, which had caused total synechia posterior, and had also thrown several narrow bands across the pupils. His vision $=\frac{3}{100}$ right and $\frac{2}{100}$ left eye; right now inflamed; T—1. I recommended the same course in his case that I had done in that of the lady; but it was not near so promising a case as was the former, for the following reasons, to-wit:

1. He never had had good vision.
2. He was myopic in a high degree (and it must be remembered that myopia, when in a high degree, is a disease, and not simply an anomaly of refraction, as it usually is accompanied with sclerotico-choroiditis posterior).
3. His tension was minus, showing that the disorganizing effect upon the interior of the eye had already commenced.
4. One eye was still inflamed.

But no sooner was the case thoroughly explained to him (he being a man of very acute intellect) than he set his house in order, returned to the city and had the operation made on both eyes, under chloroform, April 10, 1878. He recovered nicely, could see to count my fingers when the eyes were dressed fourteen hours subsequent to the operation; he went home on the fourth day; in two weeks he could read ordinary newspaper print, and at this date he is one of the happiest men on earth.

I have simply reported the two cases, owing to their similarity, and residing as they do in the same small town. I could just as easily have given you two hundred as the two cases, but there would be such a sameness about them necessarily, that I would fear the soporific effect upon my audience, and you know that it would not do to have this hall compared with that of Somnus; neither should we by our prolixity change springs Pierian or fountains Hippocrene into streams lethal.

In the performance of the operation one should by all means resort to an anesthetic for several reasons:

1. The patient, if he jerks at all, is sure to do so when one is just in the act of drawing out the iris, as was the case with that celebrated operator, Von Graefe. He was operating upon a machinist, who moved his head suddenly just as the iris was being drawn out, and the entire diaphragm was extracted. In these cases of closed pupil, however, one is more liable to tear a piece out, especially as the irides become very rotten from frequent inflammations, and thereby necessitate another sitting; this accident is liable also to start the inflammatory process afresh, as tearing is much more dangerous than is a clean incision.
2. One is in danger of touching the lens capsule with the forceps when about to seize the iris, which would make matters worse by causing cataract to ensue.

CHOICE OF POSITION—If left to choose the portion of iris to be excised: If a handsome woman, the coloboma should be made upwards, as it is partially covered by the upper lid and therefore not seen. If one wished the best possible vision, all things equal, I would make it downward and inward. If, however, I found a place where the iris appeared to be the best attached to the lens capsule, that place, above all others, would be the one to choose.

Where the chamber is sufficiently deep, a lance-shaped iridectomy knife is the best instrument to make the incision with—straight if the temporal side is chosen, curved on the flat in other positions. In using this knife the danger lies in its withdrawal, as the aqueous escapes just as soon as the latter procedure is commenced, and the lens is of course forced forward against the knife by intraocular and other pressure; then, if we have a very deeply set eye, one is very liable to catch the hand against the speculum and its point may touch the lens. If there is scarcely any chamber then one does better to make a section, as in cataract operations (only much smaller), with a Graefe's knife. The excursions of the instruments must all be thought of in each case beforehand, especially taking into consideration the collapsed and altered condition of the eye after the evacuation of the humors while the instrument is in the chamber. Just as soon as the iris is drawn out and excised, the chamber fills with blood, but this gives rise to no trouble, as it is absorbed usually in forty-eight hours and in some instances much earlier. The only dressing required is a piece of oiled lint or muslin over the closed lids, over this some very fine cotton batting, and over all a bandage about six and a half centimeters wide, with tapes at the four corners, the upper ones to be passed above, the lower ones below the patient's ears. The bandage should be made of flannel and cut on the bias, which makes it more elastic. Twice a day ought the dressing to be changed and the lids gently washed with warm water. The bandage may usually be removed on the third or fourth day and a shade substituted. If the patient lives close by, he may return home just as soon as the effects of the anesthetic have passed off, and usually he may be permitted to pursue his ordinary avocation in from three to five weeks. The results of this operation are so highly satisfactory that only about one out of five hundred cases do we find made worse by the same when properly performed.

GLAUCOMA is another disease which demands early operative interference, but it would be trespassing too much upon your time to enter upon so vast a subject, and as this is intended for a very brief paper, I will simply say of it, practice palpation on the eye and you will always be ready to recognize this dread disease by the increased intraocular tension, no matter how insidious may be its approaches. Iridectomy cures glaucoma in seventy-five per cent. of the cases. Without operative interference nine hundred and ninety-nine out of one thousand glaucomatous eyes are totally lost.

STRABISMUS—This is another affection of the eye which calls for early operative interference. "Wait until your child is old enough to choose for himself, and then if he wishes he can have his eye straightened." This was the advice often given to the parent of a cross-eyed child, and never was advice more dangerous. It is very evident that if one eye deviates in the least particular so that rays of light do not come to a point on corresponding portions of each retina, or, in other words, upon the macula lutea, diplopia must be the result. Now, nature abhors double vision just as badly as she is said to abhor a vacuum, and the result is, that the brain soon learns to suppress the false image, and the eye eventually becomes amblyopic from exclusion (or weak from disuse), and unfortunately, if children cease to use one eye for a long time, the vision often sinks to $\frac{1}{cc}$ or even lower; then we find it too late to aid the eye, even though we place it back in its natural position. It is true we can always straighten the eye, and thereby help the patient cosmetically; but we can not do so visually unless the acuity of the vision is almost as good in one as in the other eye. Where the strabismus is of the alternating variety (not confined to one eye), then the demand for surgical interference is not so urgent; but when monocular, we should by all means spare no pains in warning parents of the danger in delay; that their children are almost certain to lose the use of one eye by "amblyopia from exclusion."

Congenital Cataract is another affection which calls for an early operation in order to the development of retinal function. Where a person has once had good vision, he may become cataractous in after life; and though he be blind for twenty years, an operation, properly performed, will give him an acuity of vision which will enable him to see with almost perfect distinctness, with suitable glasses. But let one be born blind, with cataract in both eyes, and the opaque lenses be not removed from the axis of vision during the first or second year of infancy, then nystagmus (oscillations of the eye-balls, resembling the palsy of the old and infirm) is set up; and though subsequently we remove the lenses smoothly and thoroughly, yet the patient, though much benefited, is not to nearly the extent that he would have been had an early operation been made; he remains, though partially benefited, amblyopic through life. Of the truth of this statement one can furnish abundant proof, and for its corroboration I refer you to Dr. John M. Kitchen, the physician to our blind institute, who has kindly sent me many patients from said institute for operative interference.[1] Hence we see the great importance which attaches to the early recognition and treatment of troubles which, if left to themselves, result in either total blindness of one or both eyes, or the loss of a sufficient acuity of vision necessary to the ordinary pursuits of life.

In conclusion, let me say that an exhaustive paper on any one of the subjects above mentioned was not my intention; but simply a few hints which I hope may be of some little benefit to some one of the overworked members of our profession now present, and that they may result in the amelioration of the suffering and conduce to the restoration of vision of some poor benighted fellow creature who is now groping his way in darkness through this veil of sorrow and affliction.

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(1) Let me state that Dr. Kitchen does not pretend to be an oculist; and as the question is so frequently asked, "Why not place an oculist and aurist on the medical staff of blind and deaf institutes" the answer is as follows: These institutes are not hospitals or infirmaries for the treatment of cases; they are simply schools of instruction and education. Consequently physicians are appointed to attend upon them when the pupils or attendants become temporarily sick. Were specialists employed, not only would the sick receive inferior attention, but the latter would lose business by being called from their private duties during office hours. Again, it has been suggested, why not employ one who is both oculist and physician? The answer to which is, that when a hen tries to cover too many eggs the result is well known. So we find it with the preacher-doctor; he is either a poor preacher or a poor physician, usually both. Of course, I do not wish to convey the idea that a physician should not learn all he can about the eye, or any other organ; on the contrary, he should. But I do say most positively that an oculist and general practitioner is invariably one who is thorough in neither branch which he professes.

THE METRIC SYSTEM.

WEIGHTS.		APPROXIMATE TROY WEIGHT.
One milligram (written 0.001)	equals	1-65 gr.
One centigram (written 0.01)	equals	1-6 gr.
One decigram (written 1.0)	equals	1½ grs.
One gram (written 1.)	equals	15 grs.
One decagram (written 10.)	equals	2½ drachms.
One hectogram	equals	3 oz. and 100 grs.
One kilogram	equals	2½ pounds.

MEASURES (CAPACITY).		EQUIVALENTS.
One milliliter	equals	16.231 minims.
One centiliter	equals	2.705 fluid dr.
One deciliter	equals	3.381 fluid oz.
One liter	equals	2.113 pints.

MEASURES (LENGTH).		EQUIVALENTS.
One millimeter	equals	0.0394 inch.
One centimeter	equals	0.3937 inch.
One decimeter	equals	3.937 inches.
One meter	equals	39.37 inches.

OLD STYLE.		METRIC *grams.*
m i or gr. i	equals	|06
f ʒi or ʒi	equals	4|
f ℥i or ℥i	equals	32| *

* The decimal *line* instead of points makes errors impossible.

TRANSACTIONS

OF THE

INDIANA STATE MEDICAL SOCIETY

AT THE

TWENTY-NINTH ANNUAL SESSION.

First Day.

MORNING SESSION.

INDIANAPOLIS, IND., TUESDAY, MAY 20, 1879.

The society was called to order, in the Supreme Court room, at ten o'clock A. M. by Dr. Benjamin Newland, of Lawrence county, Vice-President, who addressed the meeting in the following words:

Gentlemen of the Indiana State Medical Society:

My assumption of the duties of the chair is on account of the resignation of your President, Dr. Louis Humphreys, of South Bend. His resignation is the result of an attack of subacute rheumatism, from which, as he has informed me, he has been suffering since the early part of last winter, to such an extent as to confine him to his room. He greatly regrets his inability to be with you and preside over your deliberations, and has expressed the wish to me, should his health be restored, that you will, at some time, give him the opportunity to do so—a wish eminently proper, as he so highly appreciated the high honor conferred on him, and one, it is hoped, will not be disregarded.

In taking the chair, allow me to assure you that I am wholly unused to its duties, and that in attempting to discharge the duties incumbent on me as your presiding officer, to beg of you both your indulgence and assistance, to the end that your business may be speedily and satisfactorily transacted with profit to yourselves, to the credit and dignity of the society, and beneficial to the health interests of the people of the state, whose guardians, in this respect, you are.

The Secretary, Dr. G. V. Woolen, then called the roll from the following list of delegates, and those in italics were present:

LIST OF DELEGATES.

Allen—S. Anderson, *J. R. Beck*, *J. S. Gregg*, *H. P. Ayres.*

Benton—J. K. Thompson, *J. A. Gray.*

Blackford—C. R. Mason, *W. W. Wilt*, H. C. Davisson.

Boone—*D. C. Scull*, *W. P. Parr*, *E. W. S. Hillgas*, J. H. Hamilton, *W. H. Shulse*, *N. Mendenhall.*

Carroll—*W. Smith*, J. T. Richardson.

Cass—*G. N. Fitch*, *W. H. Bell*, *N. W. Cady.*

Clark—*N. Field*, *W. N. Sheets*, C. B. McClure.

Daviess—*C. W. McDaniel*, G. W. Willeford, *F. A. Anderson.*

Dearborn—*T. M. Kyle*, *J. D. Gatch*, *J. R. Davis*, *E. B. Vincent*, *W. N. Terrill*, Geo. Sutton, W. C. Henry, *T. E. Craig*, *M. H. Harding.*

Decatur—*John H. Alexander*, *John L. Wooden*, *Geo. S. Crawford.*

Delaware—*J. Dillon*, *S. V. Jump*, D. R. Armitage, *G. W. H. Kemper.*

Dubois—*J. P. Buckner*, *G. P. Williams*, *R. M. Wellman*, *M. Kempf.*

Elkhart—J. S. Dodge, *R. J. Haggerty.*

Fayette—*J. Chitwood*, W. J. Pepper, *S. W. Vance.*

Floyd—*E. W. King*, G. H. Cannon, *E. P. Easley.*

Fountain—J. W. Quinn, Marshal Petitt, J. W. Mock, *Geo. C. Hays.*

Fulton—*J. A. Sutton.*

Gibson—*S. E. Munford*, W. G. Kidd.

Grant—*J. W. Perry*, *L. Corey*, J. F. McKinstry, *J. S. Sproul*, Wm. Lomax. *H. Charles*, *Wm. Flynn*, *S. C. Weddington*, L. P. Hess.

Greene—*H. R. Lowder*, *H. V. Norvell*, *S. C. Cravens.*

Hamilton—*J. M. Gray*, *F. W. Warford*, J. L. Benson, *A. R. Tucker.*

Hancock—*N. P. Howard, Jr.*, Geo. Tague.

Hendricks—M. G. Parker, F. C. Ferguson, F. W. Smith.

Henry—*S. Ferris*, *John Rea*, *E. T. Mendenhall.*

Howard—*J. McL. Moulder*, *W. H. Mavity*, *H. C. Cole.*

Jackson—M. L. Boas, G. Q. Orvis, *J. A. Stilwell*, *T. S. Galbraith.*

Jefferson—*W. T. S. Cornett*, Wm. Marquis. *J. W. F. Gerrish.*

Knox—*F. W. Beard*, W. O. Bennett, A. Patton, *F. M. Harris*, *H. M. Smith.*

Kosciusko—*E. P. Gilpin, I. J. Becknell, C. W. Burkit, F. M. Pearman.*
LaGrange—*John Dancer*, E. G. White, A. M. Spaulding.
LaPorte—*G. L. Andrew, L. L. Keen.*
Lawrence—*Benj. Newland, G. W. Burton.*
Madison—*J. H. Harter, Wm. Suman, H. E. Jones, J. W. Cook, V. Dunham.*
Marion—*John Chambers, J. A. Comingor, J. R. Featherston, T. B. Harvey, J. I. Sutcliffe, R. N. Todd, F. J. Van Vorhis, I. C. Walker, J. H. Woodburn.*
Marshall—W. N. Bailey, R. B. Eaton.
Miami—*J. H. Helm, L. B. Williams, J. O. Ward.*
Montgomery—J. D. VanNuys, *W. J. Hurt, T. J. Griffith, J. S. McMurry, I. P. Fitch.*
Morgan—*E. P. Ritchey, R. H. Pearse, A. W. Reagan.*
Orange - *J. A. Ritter, C. E. Laughlin.*
Parke J. H. Rice, *R. H. W. McKey, C. C. Moris.*
Pike - *H. P. Hornbrook*, A. Leslie, Sr., *A. R. Byers.*
Posey—*E. Murphy*, C. Hicks, F. H. Kelly, E. V. Spencer.
Pulaski—E. C. Patterson.
Putnam—J. B. Cross, A. G. Preston, *G. C. Smythe, H. P. Allen.*
Randolph—*H. H. Yergan, Wm. Commons, J. J. Evans, R. N. Harrison.*
Rush—*J. A. Axline, W. W. Arnold. John Moffett, J. J. Inlow.*
St. Joseph—*L. H. Dunning, J. R. Brown.*
Starke—*M. C. Bonar.*
Steuben—M. F. Crain, *H. D. Wood, T. F. Wood.*
Tippecanoe—*H. W. Wiley, G. F. Beasley, J. C. Webster.*
Tipton—*A. M. Vickrey, M. V. B. Newcomer, W. N. Heath, J. A. Bouse, N. V. Doan.*
Vanderburg—M. J. Bray, J. W. Compton, C. A. Wilde.
Vigo—*J. P. Worrell*, Charles Gerstmyer, *J. D. Mitchell*, W. H. Roberts, *L. Willien. G. W. Crapo.*
Wabash—*R. Murphy, W. G. Armstrong, E. P. Peters, S. G. Thompson, B. H. Grayston, J. H. Ford.*
Warren—*C. H. Huffman, S. N. Osborn.*
Warrick—C. J. Keegan. W. B. Scales.
Wayne—*J. F. Hibberd, C. N. Blount, M. F. Thomas, J. R. Mauk.*
White—*Wm. Spencer.*

The chair announced the following Committee on Credenials:

Dr. W. H. Bell, of Cass, chairman.
Dr. F. W. Beard, of Knox.
Dr. R. N. Todd, of Marion.
Dr. J. S. Gregg, of Allen.
Dr. J. A. Ritter, of Orange.

Dr. Elijah S. Elder presented the following report of Committee on Arrangements:

Gentlemen of the Indiana State Medical Society:

For several years members of the society have referred to the matter of securing reduced fare on the various railroads to delegates and members of the society. Heretofore no such arrangements have been made. I have succeeded in arranging with all the roads leading into the city and the principal connecting lines for excursion rates, a copy of which has been mailed to all the members of the society and the members of the profession throughout the state. Have also arranged with the Grand Hotel, the Occidental, the Bates, the Remy, the Pyle House, and Mrs. Miller for entertainment at reduced rates.

Considerable difficulty has been encountered in securing a suitable room in which to hold the meeting. Those that were in easy access to the hotels were either engaged, or other obstacles, prevented their being used. However, through the courtesies of Mr. Fred. Hiner, this room has been placed at our services free of cost, except cost of putting it in order, loan of gas fixtures, janitor fees and loan of chairs, for which see enclosed bills.

I have sent out by mail eleven hundred circular announcements of railroad and hotel arrangements. Have mailed two hundred and twenty orders for excursion tickets, sent five telegrams, and corresponded freely with the various railroad authorities.

Enclosed please find bill of expense incurred.

E. S. Elder,
Chairman.

On motion, the report was accepted and the accounts ordered paid.

Dr. G. V. Woolen, Secretary, then submitted his annual report, as follows:

Gentlemen of the Indiana State Medical Society:

I have the honor to respecfully report that I have collected from the various county medical societies reported in last year's Transactions, one dollar from each member reported in good standing, amounting in the aggregate to nine hundred and twenty-seven dollars. I have also sold nine volumes of the Transactions for one dollar per volume; which amounts have been paid the Treasurer.

I would again call the attention of the society to the fact that some of the societies have not become incorporated, as contemplated in the constitution, and to prevent difficulties from arising, as have arisen in some cases, it would seem desirable that this society should give some expression on the subject.

I have received the credentials of the Fayette County Medical Society since our last meeting; also Fulton County Medical Society.

The Delaware County Medical Society, which was recognized by this society at its last meeting, has been disbanded, and another society has been organized, and proper credentials have been forwarded to me.

Some questions have arisen each year which it would be well for this society to settle:

1. How many volumes, if any, should be furnished gratuitously to members who contribute articles for the volume?
2. To what extent should exchanges be made with sister organizations?
3. Shall public libraries be furnished, on application, with our Transactions?
4. What price shall be charged for volumes?

Two meetings of the American Medical Association having occurred since our last meeting, upon consultation with the President of this society, I issued certificates to gentlemen appointed last year, to attend the second meeting; also to the following, upon application:

Dr. J. R. Weist, of Richmond.
Dr. J. A. Adrian, of Logansport.
Drs. A. G. Porter and M. H. Bonnell, of Lebanon.
Dr. W. G. Smith, of Winchester.
Dr. G. M. Collins, of Tipton.

My attention having been called to the character of the proceedings had with reference to the memorial from the Allen County Medical Society, relating to the expulsion of Dr. W. H. Myers, by consultation with the officers of this society, and being served upon by the order of the court, ordering his re-instatement, together with notice that all persons giving assistance to the promulgation of the acts of said society would be held for contempt, I deemed it prudent and desirable not to certify any action of this society to the American Medical Association until reported to this society. Due notice of such intention was given said society.

At the request of the framer of our constitution, I made inquiry of competent persons, to ascertain if our organization was really and legally incorporated by its constitution being filed with the Secretary of State. I have a report from the Hon. J. W. Gordon, of this city, which it would be well to have referred to a committee for examination.

I have the honor to transmit a communication from a district medical society, composed of the counties of Benton, Newton, Jasper and White, asking that district medical societies be allowed representation in this body.

According to sections ten and eleven of by-laws, the following papers have been referred to the society for its consideration:

A case of Perineal Section for Urethral Stricture, by Dr. J. A. Sutcliffe, of Indianapolis.

Immediate Delivery of Placenta, by Dr. E. S. Elder, of Indianapolis.

Pelvic Hematocele, by Dr. T. B. Harvey, of Indianapolis.

Indispensable Operations upon the Eye, by Dr. J. L. Thompson, of Indianapolis.

Affections of the Gall-Bladder, tending to result in Cutaneous Biliary Fistula, by Dr. G. W. H. Kemper, of Muncie.

A case of Death from Chloroform, by Dr. W. W. Vinnedge, of La-Fayette.

Statistics of Placenta Previa, collected from the practice of the physicians of Indiana, by Dr. E. W. King, of Galena.

A contribution toward the Rational Treatment of Dysentery, by Dr. G. L. Andrew, of LaPorte.

Excision of the Knee Joint, by Dr. Joseph Eastman, of Indianapolis.

Dr. Matthew Kempf, of Ferdinand, also offers to deliver a lecture on "The Ancient Nomads or Wandering Cainidæ," illustrated with two lithographic maps, and seven diagrams referring to evolution, requiring two hours.

I am in receipt of charts and circulars illustrating and explaining the metric system, from the American Metric Bureau, of Boston, with a letter from Dr. Wigglesworth, of the Harvard Medical Department, urging action on the subject by this body.

Also a communication from the New York County Medical Society, on the same subject.

All of which is respectfully submitted.

G. V. Wooley, M. D.
Secretary.

The Chairman—What shall be done with the annual report of the Secretary?

Dr. W. Hobbs—I move that it be referred to a special committee.

Dr. J. F. Hibberd—There are suggestions contained in that report that look in several different directions—for instance, in regard to the legality of our organization, the distribution of our Transactions and our relation to our subordinates; and for that reason the report should be referred to two committees, and the subjects embraced be divided between them.

Dr. W. Hobbs accepted the suggestion, and as amended, the motion to refer the report was carried.

The Chair—I will appoint Dr. Hobbs, the mover, chairman of one committee, and Dr. Hibberd, the author of the amendment, the chairman of the other committee, and each to have power to select the other two members of their committee.

Dr. Hibberd announced as one of two special committees,

Dr. James F. Hibberd.
Dr. James W. F. Gerish.
Dr. G. L. Andrew.

Dr. W. Hobbs announced as the second Special Committee on the Secretary's report, the following persons:

Dr. W. Hobbs.
Dr. F. J. VanVorhis.
Dr. G. W. H. Kemper.

Dr. I. C. Walker submitted the following as the Treasurer's annual report:

I. C. Walker, M. D., *Treasurer*,
In account with the Indiana State Medical Society.

To balance May, 1878	$71.81	
Cash from Secretary Woolen, dues	927.00	
Cash from sales of transaction	9.00	
		$1.007.81
By cash for Transactions	$470.10	
By cash for stationery	4.50	
By cash for stenographer	30.00	
By cash for postage (Secretary)	24.00	
By cash for stationery	18.75	
By cash for church lecture room	20.00	
By cash for Secretary Woolen, salary	100.00	
	$667.35	
Balance on hand		$340.46

Respectfully submitted,

I. C. Walker,
Treasurer.

Dr. J. H. Woodburn moved that the Treasurer's report, with the papers accompanying it, be referred to the Committee on Finance.

Which was adopted.

The chair called for the report of the Librarian.

Dr. F. J. VanVorhis—Mr. President, aside from the mere matter of form, I have no report to make, there being no books belonging to the society to take care of. The office of Librarian, just at the present time, is a sinecure.

Dr. Allison Maxwell submitted the following report, which was accepted and concurred in:

REPORT OF COMMITTEE ON PUBLICATION.

Gentlemen of the Indiana State Medical Society:

As chairman of the Committee on Publication, I have the honor to present the following report, viz:

There have been one thousand (1,000) copies of the Transactions of the society issued in book form at a cost of four hundred and fifty-nine dollars, or about forty-six cents per volume.

The committee received bids for the printing and binding of the book, and awarded the contract to the lowest bidder, and in this way the work was done somewhat cheaper than in previous years.

The committee is glad to say that the book will compare favorably with the Transactions issued by other medical societies, and that it is almost free from typographical errors, being quite an improvement in this respect. The books have been distributed to the various secretaries of the county societies.

There were printed five hundred copies of the President's address, as ordered by the society, at a cost of eleven dollars.

Respectfully submitted.

ALLISON MAXWELL,
Chairman.

On motion, the President's annual address was made the special order of business at eight o'clock this evening.

The chair announced the following as the Committee on Ethics:

Dr. G. N. Fitch, of Cass county, chairman.
Dr. Wilson Hobbs, of Henry county.
Dr. E. D. Laughlin, of Orange county.
Dr. W. T. S. Cornett, of Jefferson county.
Dr. H. M. Smith, of Knox county.

Dr. W. Hobbs moved that the society call for voluntary papers, and that a roster be made up before proceeding to read the papers.

It was so ordered by common consent.

A paper was announced, entitled An Account of the Diseases Prevalent at the First Settlement of the City of Kokomo, by Dr. C. E. Richmond.

Which, on motion of Dr. Hibberd, was referred to the Committee on Publication, by common consent.

On motion of Dr. Woodburn, a paper announced upon certain specific operations of the eye, by Dr. J. L. Thompson, of Indianapolis, was made the special order of the day for eleven o'clock A. M. to-morrow.

The paper by Dr. G. W. H. Kemper, of Muncie, on Affections of the Gall-Bladder, Tending to Result in Cutaneous Biliary Fistula, was, upon motion of Dr. Mumford, made the special order of business for this afternoon at two o'clock.

Dr. J. A. Sutcliffe, of Indianapolis, was called on, and read a paper entitled Perineal Section for Stricture of the Urethra.

Dr. Marshall Sexton—I would suggest that this paper be re-read at a full meeting of the society. I was not myself here, and many others were absent. I move it be re-read to-morrow morning.

The motion was lost.

Dr. Sutcliffe's paper was referred to the Committee on Publication.

Dr. J. R. Weist requested a suspension of the regular business, in order to allow of the introduction of some resolutions.

The rules were suspended.

Dr. Weist then introduced the following resolutions:

WHEREAS, The metrical system of weights and measures is now adopted by most scientists throughout the world, and is used in the transactions of most learned societies, and its universal use is desirable because of its simplicity, and its great superiority over that now in use; and,

WHEREAS, The American Medical Association, at its late meeting, at Atlanta, adopted this system, and will use it in future volumes of its transactions, and requests that all papers presented for its consideration use the same; and,

WHEREAS, The State Medical Society of Indiana can not afford to lag behind in the march of progress; therefore,

Resolved, That this society adopt the international metrical system of weights and measures, and will in future use the same in its Transactions, and requests that in all communications to the society this system be used.

Which, on motion, was referred to a special committee on Secretary's annual report, of which Dr. Hibberd was chairman.

Dr. E. W. King, of Galena, offered a paper entitled Statistics of Placenta Previa, collected from the practice of physicians in the state of Indiana, which, on motion, was made the special order for half past two o'clock this afternoon.

A paper was presented by Dr. Kempf, of Ferdinand, on Ethnology, illustrated by charts, etc., with the statement that the reading thereof would occupy two hours.

Dr. E. S. Elder moved that the paper be referred to a special committee of three, whose duty it should be to examine the paper and report to the society what disposition, in their judgment, should be made of it.

Which motion prevailed.

Drs. J. R. Weist, J. R. Beck and E. S. Elder were appointed such committee.

A paper was announced on Pelvic Hematocele, by Dr. T. B. Harvey, of Indianapolis, which, on motion of Dr. Woodburn, was made the special order for half past three o'clock to-morrow afternoon.

Dr. R. E. Haughton, of Indianapolis, introduced a voluntary paper on Fracture of the Cervical Spine.

It was moved and carried that Dr. Haughton be requested to read the paper now, which was accordingly read.

Dr. Wm. Commons moved that Dr. Haughton's paper be referred to the Committee on Publication, and it was so ordered.

On motion of Dr. Hibberd, the Committee on Medical Legislation was directed to report at ten o'clock A. M. to-morrow.

Whereupon the meeting adjourned till two o'clock P. M.

First Day.

AFTERNOON SESSION.

The society was called to order by the President, Dr. Ben. Newland, at two o'clock P. M.

Dr. J. R. Beck presented the following report from the special committee appointed to consider what disposition should be made of the paper by Dr. Kempf:

Gentlemen of the Indiana State Medical Society:

Your committee, to which was referred the paper of Dr. Kempf, together with the accompanying illustrations, beg leave to report thereon as follows:

Owing to the extreme length of the paper; the peculiar scientific character thereof; its inadaptibility as a matter germane to practical medicine, and the difficulty in making any abstract of the same, which shall at all fully represent its scope and character, we recommend that the paper be returned to its author with no suggestions as to the disposal of it.

Very respectfully,
J. R. WEIST,
E. S. ELDER,
JOSEPH R. BECK,
Committee.

On motion, the report of the committee was concurred in.

The President announced that the special order for the hour was the paper of Dr. G. W. H. Kemper, of Delaware county, which was read and referred to Publication Committee.

Dr. F. W. Beard submitted the following report from the Committee on Credentials:

The Committee on Credentials beg leave to report that, having examined the credentials of the Fulton County Medical Society, we recommend representation thereof in this society.

The petition of the district medical society, including the counties of Newton, Benton, Jasper and White, asking the state medical society to so change the rules as to admit delegates from district medical societies to representation, would, if granted, be considered by your committee a violation of the constitution of the state medical society, and, therefore, we can not recommend the granting thereof.

The above society is referred to the Secretary for instructions.

The old Delaware County Medical Society, which was admitted to representation last year, having disbanded, and a new society of the same name organized in accordance with the constitution of the state medical society, the latter is hereby recommended as being entitled to representation.

F. W. Beard,
Chairman.

A paper on Death from Chloroform, by Dr. W. W. Vinnedge, of LaFayette, was read by Dr. H. W. Wiley, of LaFayette, at the request of Dr. Vinnedge, which paper, after free discussion, was, on motion of Dr. Commons, referred to the Committee on Publication.

On motion of Dr. J. F. Hibberd, Dr. VanVorhis was requested to secure the use of Harmonic Hall for the use of the society after the present adjournment, on account of the noise from the street here.

Dr. VanVorhis reported that the society was at liberty to hold the evening session there; and it was resolved, by common consent, that when the adjournment occurred the society should re-assemble at Harmonic Hall.

Dr. Enoch W. King, of Galena, read his paper on Placenta Previa, which, on motion, was referred to the Committee on Publication.

Secretary Woolen presented certain papers received from the Randolph County Medical Society, which were referred without reading to the Committee on Ethics.

Dr. W. Hobbs submitted the following

REPORT.

The committee to whom was referred that part of the annual report of the Secretary relating to the legal incorporation of this society, beg leave to report that we have determined the necessary steps to fully perfect our organization, which we shall ask the necessary time to accomplish, and make full report at the next annual session. We also ask the society to authorize the Treasurer to pay the committee whatever sum may be necessary to defray the expenses incurred in the proceedings.

W. Hobbs,
Chairman.

On motion of Dr. Hibberd, the report was concurred in.

Dr. Jos. Eastman read a paper on Excision of the Knee Joint, with cases.

Which was referred to the publishing committee.

Dr. J. H. Helm moved that the various delegations present meet at an early hour and appoint one of their number as a member of the general committee on nominations for officers for the ensuing year.

Which was adopted.

Dr. H. P. Ayres moved that when this meeting of the society shall finally adjourn, it adjourn to meet in the city of Fort Wayne at the next annual session.

Dr. F. J. VanVorhis moved that the motion lie on the table.

Which was adopted.

On motion, the society adjourned till night session.

First Day.

EVENING SESSION.

The society was called to order in Harmonic Hall, at eight o'clock P. M., by Dr. Graham N. Fitch, of Logansport, who announced that the special business for the hour was the reception of the President's annual address, whereupon the President, Dr. Ben. Newland, of Lawrence county, delivered his address as President, for the year, entitled The Relations of Legislation to Sanitary Protection.

A general and somewhat desultory discussion followed in regard to various points mentioned in Dr. Newland's address, Drs. Field, Sutton, Stevens, Waterman, Weddington and Todd delivering brief addresses.

On motion of Dr. Jas. H. Woodburn, it was referred to the Committee on Publication.

Dr. Jas. F. Hibberd moved that such parts of the President's address, which refer to state medicine and practical hygiene and general sanitary affairs, be referred to a select committee of three, to report next year.

Which was concurred in.

Dr. Jas. F. Hibberd was appointed chairman with power to select the other two, and named as the other members, Drs. W. Hobbs and L. D. Waterman.

On motion of Dr. J. A. Sutton, of Fulton county, so much of the President's address as refers to the suppression of irregular medicine by legislation, was referred to a select committee of three.

Dr. J. A. Sutton was selected as chairman with power to select associates, and the committee was composed of the following members:

Dr. J. A. Sutton. chairman.
Dr. F. J. VanVorhis.
Dr. R. E. Haughton.

Dr. L. D. Waterman, in a few appropriate words, announced the death of Prof. G. W. Mears, one of the original members and former presidents of this society, which occurred this afternoon at his residence in this city, and moved that a committee be appointed to draft suitable resolutions of respect and esteem of our late venerable and honored brother:

The President appointed the following as such committee:

Dr. L. D. Waterman, of Indianapolis.
Dr. G. N. Fitch, of Logansport.
Dr. S. S. Boyd, of Dublin.

After the reading of the names of the committee on nominations, the convention adjourned to re-assemble at nine o'clock to-morrow morning.

Second Day.

MORNING SESSION.

WEDNESDAY, MAY 21, 1879.

The society met pursuant to adjournment, for its second day's session, in Harmonic Hall, at nine o'clock A. M., and was called to order by President Newland.

Dr. James F. Hibberd, chairman, offered the following report of the select committee appointed to consider so much of the report of the Secretary as did not refer to the legal insufficiency of the incorporation of the state medical society:

Gentlemen of the Indiana State Medical Society:

Your committee found seven points in the Secretary's report to claim their attention:

1. The Secretary asks an expression of opinion by this society as to what shall be done with those county societies which have not perfected their incorporation according to the provisions of the statute of the state for that purpose. So far as your committee can learn, the incompleteness of the incorporation of county societies referred to by the Secretary arises out of a want of attention on the part of the corporators to the exact requirements of the law, and when their attention is called to the defect they still neglect to remedy it. As an efficient means of pointing out the necessity of immediate attention to any irregularity in their scheme of incorporation, your committee recommend the adoption of the following resolution:

Resolved, That after the present session this society will not recognize the delegates of any county society that is not complete in its legal incorporation.

2. The Secretary asks, how many volumes, if any, should be furnished gratuitously to members who contribute articles to the volume?

We answer, none; but recommend that the Secretary be authorized to contract with the printers of our Transactions, on the best attainable terms, for as many special copies of any paper in the Transactions as its author may want, and furnish them to the author at cost.

3. The Secretary asks, to what extent should exchanges be made with sister organizations?

We recommend exchanges with the American Medical Association, and all state and territorial associations of a like character that ask it.

4. The Secretary asks, shall public libraries be furnished, on application, with our Transactions?

We answer, until further order, yes.

5. The Secretary asks, what price shall be charged for volumes?

We suppose this refers to outsiders who may want to buy our Transactions, and we recommend the price be, for the present, one dollar.

6. As regards the representation of district medical societies in this society, we think there is no authority for such representation under our act of incorporation, as by law this society must be composed of members of county societies, legally incorporated; and furthermore, if we had the right, your committee think it would be bad policy. This society should use its influence to encourage the love of the doctors of the state for their county societies; to make such societies the recipients of the best intellectual efforts of the physicians of the state; asking that when a member of a county society presents anything of especial interest, whether it be the result of original investigation, the rehabilitation of old truths in such new garbs as to make them equal to new truths, or the report of instructive cases, it be sent up to the state society for the edification of its members, and to be printed in the volume of Transactions for more general information and wider usefulness.

By such a judicious course of action, this society may render county societies so popular, so useful, so indispensable to every doctor's welfare, that there will scarcely be room for district societies in the state.

7. Concerning the metric system.

Your committee are of the opinion that the preamble and resolutions offered by Dr. Weist, and referred to this committee, cover the ground that should be taken by this society, and we ask the adoption of the same, as all that is necessary at this time, as follows, to-wit:

WHEREAS, The metrical system of weights and measures is now in use by most scientists throughout the world, and is used in the transactions of nearly all learned societies, and its universal adoption is desirable because of its simplicity and its great superiority over the old method; and

WHEREAS, The American Medical Association, at its late meeting at Atlanta, adopted this system, and will use it in future volumes of its transactions, and requests that all papers presented for its consideration use the same; and

WHEREAS, The Indiana State Medical Society can not afford to lag behind in the march of progress; therefore,

Resolved, That this society adopt the international system of weights and measures, and will in future use the same in its Transactions, and requests that in all communications to the society this system be used.

Respectfully submitted,

JAMES F. HIBBERD,
JAMES W. F. GERRISH,
GEORGE L. ANDREW,
Committee.

The report of the committee was adopted.

Dr. L. D. Waterman, from a special committee, submitted the following

RESOLUTIONS ON THE DEATH OF PROF. GEORGE W. MEARS.

WHEREAS, Prof. George W. Mears, M. D., of Indianapolis, an honored member and former President of this society, has passed from this life, after long years of high professional character, exemplary integrity, faithful and zealous labor for the true and good, and grand influences to his pupils, fellow physicians and the public;

Resolved, That the Indiana State Medical Society in sadness expresses its profound sense of the loss of one so honored, of one whose example was so excellent, and of one so valuable to the commonwealth.

Resolved, That in unanimity of feeling we hereby instruct our Secretary to convey to the family of our late and revered brother these resolutions, assuring them that we will treasure his memory as well in our hearts as in the archives of this society, and in token to them of our deepest sympathy.

L. D. Waterman,
Graham N. Fitch,
S. S. Boyd,
Committee.

The report and resolutions accompanying it were unanimously adopted by the society, standing and in silence.

Dr. Wilson Hobbs moved that a committee be appointed by the chair, whose duty it shall be to attend as representatives of the state medical society upon the obsequies of Dr. Mears, and that they deliver in person to the family of Dr. Mears the resolutions just passed, under the seal of the society and signature of the Secretary, at a later period when the family will not be surrounded by the circumstances of immediate distress and bereavement that are now surrounding them.

Which was adopted.

The President appointed the following gentlemen upon said committee:

Dr. G. N. Fitch, of Logansport.
Dr. Wilson Hobbs, of Knightstown.
Dr. Marshall Sexton, of Rushville.
Dr. N. Field, of Jeffersonville.
Dr. James Ford, of Wabash.

Dr. J. F. Hibberd submitted the following

REPORT:

Gentlemen of the Indiana State Medical Society:

The Committee on Nomination submits the names of the following gentlemen for officers of the society for the ensuing year:

For President, Dr. J. R. Weist, of Wayne county.
For Vice-President, Dr. J. D. Gatch, of Dearborn county.
For Secretary, Dr. G. V. Woolen, of Marion county.
For Assistant Secretary, Dr. G. W. Burton, of Lawrence county.
For Treasurer, Dr. G. W. H. Kemper, of Delaware county.
For Librarian, Dr. F. J. VanVorhis, of Marion county.

G. W. Burton,
Secretary.

J. F. Hibberd,
Chairman.

On motion, the report was adopted.

The President, having announced that the order of business for the hour was the report of the Committee on Medical Legislation,

Dr. James F. Hibberd appeared in behalf of the committee, and said: "I shall make an oral report, simply asking that the committee be continued another year for the purpose of a farther consideration of the subject committed to it."

After some desultory discussion,

Dr. Dunning moved to refer the report back to the committee, with instructions to report this afternoon.

Which was adopted.

Dr. J. R. Weist moved that the President be authorized to appoint a committee of three, to consider whether changes should be made in the Health Commission of the state of Indiana.

Which was adopted.

Drs. J. H. Helm, E. D. Laughlin and G. L. Andrews were appointed said committee.

The chair appointed the following committees:

COMMITTEE OF ARRANGEMENTS.

Dr. E. S. Elder, chairman.
Dr. T. N. Bryan.
Dr. Jos. Eastman.
Dr. J. R. Featherston.
Dr. J. A. Sutcliffe.

COMMITTEE ON FINANCE.

Dr. A. M. Vickery, chairman.
Dr. G. C. Smythe.
Dr. J. H. Woodburn.
Dr. J. W. F. Gerrish.
Dr. E. W. King.

COMMITTEE ON PUBLICATION.

Dr. Allison Maxwell, chairman.
Dr. John Chambers.
Dr. J. L. Thompson.
Dr. G. V. Woolen.
Dr. I. C. Walker.

Dr. Hobbs, President of the State Health Commission, submitted the following report of what had been done during the recent General Assembly looking toward the establishment of a State Board of Health.

Gentlemen of the Indiana State Medical Society:

At the session of the Indiana State Medical Society held last year, the following resolutions, introduced by Dr. Thad. M. Stevens, of Indianapolis, were adopted:

Resolved, That the Committee on State Board of Health, as now constituted by this society, shall be called The State Health Commission, with power to associate with them a competent civil engineer, etc., and that the State Geologist shall be *ex-officio* a member of said commission; that the duties of such commission shall be to make investigations as to the causes and means of preventing diseases in the state, and that they may, at any time they see fit, petition the state legislature to confer upon them *police powers,* so that they can enforce such measures as they may deem necessary to the objects above mentioned.

Resolved, That in case of vacancies occurring in said board of commissioners, they shall be filled by the state society.

The Committee upon State Board of Health as at that time constituted, and thus endowed, consisted of

Dr. Thad. M. Stevens, Indianapolis, chairman.
Dr. Wilson Hobbs, of Knightstown.
Dr. Geo. W. Burton, of Mitchell.
Dr. J. W. Hervey, of Indianapolis.

Soon after the adjournment of that session, this committee met in the city of Indianapolis, and organized by electing Dr. W. Hobbs, President; Dr. Thad. M. Stevens, Secretary; Dr. Geo. W. Burton, Treasurer; and we added to our list the names of Prof. E. T. Cox, State Geologist, of Indiana; Prof. John L. Campbell, L.L. D., of Crawfordsville, as Civil Engineer. The latter gentleman at that time was engaged in making a geodetic survey of the state of Indiana, under the direction of the Bureau of Geology, a circumstance which peculiarly fitted him at that juncture to engage in the work at our hand. In order to make the number such as has usually been found elsewhere to be effective in the work of state medicine, we added to the commission thus authorized, the name of Lemuel Moss, D. D., a gentleman of distinguished ability and culture, who at present honors the presidency of our State University. As thus constituted the board stands as follows:

Wilson Hobbs, M. D., President, Knightstown.
Thad. M. Stevens, M. D., Secretary, Indianapolis.
Geo. W. Burton, M. D., Treasurer, Mitchell.
Jas. W. Hervey, M. D., Indianapolis.
Lemuel Moss, D. D., Bloomington.
John L. Campbell, L.L. D., Crawfordsville.
E. T. Cox, A. M., State Geologist, Indianapolis.

The three distinguished gentlemen called to this work from outside the medical profession entered upon it with a hearty good will, fully comprehending its importance to the commonwealth and people.

The commission held its first meeting at the Council Chamber in Indianapolis, on the twenty-sixth of December, 1878, at which session it was determined to make a full report of our work to the Governor of the state, and accompany it with a budget of papers written by the several members of the board, upon questions of importance relating to state medicine, and ask His Excellency to transmit the collection to the forthcoming General Assembly, with a message recommending that they be printed and distributed as a public document, and that he also advise such legislation as will secure a judicious administrative health code. This His Excellency was pleased to do. The budget consisted of the following papers:

1. Organization and history of the Indiana State Health Commission. by Thad. M. Stevens, M. D., Secretary.
2. Plea for a State Board of Health, by W. Hobbs, M. D., President.
3. Drainage and water supply, by J. W. Hervey, M. D., member.
4. Sewage and disposition of excreta, by Geo. W. Burton, M. D., member.
5. Health in schools, by Lemuel Moss, D. D., member.
6. Climate and surface as related to health, by J. L. Campbell, L.L. D., member.
7. Relations of geology to the production of certain diseases, by E. T. Cox, A. M., State Geologist, member.

The budget was honored in each branch of the General Assembly by a respectful reception and reference to its sanitary committee. The senate ordered fifteen hundred copies printed. The house also ordered it printed for the use of its members.

Unfortunately the volume thus contemplated has not seen the light of day. The papers were lost, or at least we have not been able to procure the volume or copy.

At the same meeting we decided upon the draft of a bill to confer upon us police powers, as mentioned in the resolutions before recited, or otherwise to establish a State Board of Health. This bill was introduced in both branches of the General Assembly, but with other bills having the same object in view it failed in passage.

We shall make other efforts to recover the manuscripts comprising the budget of sanitary papers submitted to the Governor as our annual report, or supply their places with others of like import, and with your consent present them to the Committee on Publication, in time to be incorporated in the Transactions, if you should so order. It would certainly be much better, however, to publish them in a cheap pamphlet edition, suited to a wider distribution than is allowed the Transactions.

We submit to you, in conclusion, the conviction that the organization of this commission should be kept intact, and that it be encouraged to the performance of such work as the time and opportunity of its members, and your means, will allow. The state very greatly needs a sentinel to be kept on the outlook in the matter of public hygiene, and until the people will provide one that is efficient and sufficient, our work should be kept up as best we may, to supply the place, to point out the necessity of administrative state medicine, and advise the people of their interest and duty.

All of which is very respectfully submitted.

THAD. M. STEVENS,
Secretary.

WILSON HOBBS,
President.

Which was adopted.

The following letter was read by the Secretary:

CINCINNATI, MAY 19, 1879.

PROF. T. B. HARVEY, M. D., Indianapolis: *My Dear Doctor*—Your telegram received. Thanks for the cordial invitation. I was appointed as a delegate from the Ohio State Medical Society to the State Medical Society of Indiana, and up to this morning I fully intended to attend your present session. It is now plain, however, that I can not do so. I beg, therefore, through you, to present to the Indiana State Medical Society the congratulations and fraternal good will of the Ohio State Medical Society.

Very respectfully,
THAD. A. REAMY.

Dr. J. R. Weist moved to amend section ten of the by-laws, as follows:

Amend section ten of the by-laws by striking out all after the words "selected subjects," and inserting "and voluntary papers." All such papers shall be sent to the chairman of the Committee of Arrangements at least twenty days before the annual meeting of this society.

Strike out all of section eleven and insert "The Committee of Arrangements shall examine all the papers submitted to them under the provisions of section ten, and determine the order in which they shall be presented to the society. The Committee of Arrangements shall have printed a programme of business for the use of members at each annual meeting."

The chair ruled that to make the said amendment, the by-laws of the society must first be suspended.

On motion of Dr. M. Sexton, the by-laws were suspended, and, a vote being taken on the amendment offered by Dr. Weist, it was adopted.

Dr. G. N. Fitch submitted the following report from the Committee on Ethics, which was adopted, and, on motion, was referred to the Randolph County Medical Society for its consideration and action:

To Committee on Medical Ethics:

We herewith present for your consideration a professional "card," of which the following is a copy:

A Card.—Having made a special study of chronic and surgical diseases for some years past, with a view to their most successful treatment, and having arrangements for furnishing the latest improved instruments to cases requiring the same, thereby affording all advantages in the treatment of such cases, the following being some of the diseases that I treat as a specialty:

Club feet, spinal diseases, (Potts) fistula in ano, piles—internal and external—tumors, cancers, chronic catarrh, diseases of the eye and ear, female diseases, private diseases.

A cure guaranteed in all curable cases when desired. No charge for consultation in chronic cases. C. S. Evans.

This card has been issued and published by a graduate of the Medical College of Ohio, and a member of Randolph County Medical Society We respectfully ask that you will make a ruling covering such cases, if in your judgment it needs any. Your action in the case will be taken as our guide of action in auxiliary societies.

Respectfully,

William Commons,
D. Ferguson,
Delegates.

The "card" herein referred to, and copy furnished, is, in the opinion of your committee, clearly a violation of paragraph three, article one, of the code of ethics, on "Duties for the Support of Professional Character."

G. N. FITCH.
H. M. SMITH.
E. D. LAUGHLIN.
W. T. S. CORNETT.

Secretary Woolen read a paper presented to him to be read before the society, representing the position of Dr. D. W. Butler, of Connersville, who had a certificate of membership in the old state society which preceded the present organization, it appearing that he had been unanimously expelled from the county society for gross unprofessional conduct, and asking that similar action be taken by this society.

Dr. J. R. Beck moved that the State Medical Society confirm the action of its auxiliary society.

Which motion prevailed.

Dr. Joseph R. Beck moved the following:

Resolved, That a committee of five be appointed to take into consideration the subject of necrology, and to report at the next session of this society.

The resolution was adopted, and the committee was formed as follows:

Dr. Joseph R. Beck, of Allen county, chairman.
Dr. J. F. Hibberd, of Wayne county.
Dr. George Sutton, of Dearborn county.
Dr. John Moffett, of Rush county.
Dr. B. Newland, of Lawrence county.

Dr. Joseph R. Beck offered the following preamble and resolutions:

WHEREAS, The President of this society, Dr. L. Humphreys, of South Bend, has been prevented by illness from meeting with us, and presiding over our deliberations; therefore,

Resolved, That the members of this society desire to convey to Dr. Humphreys a unanimous expression of their great regret for the misfortune that has deprived them of his presence, and to assure him of their sympathy for him in his great affliction, and of their sincere hope that he will soon be restored to full health and his wonted usefulness.

Resolved, That the Publication Committee incorporate this preamble and resolutions in the Transactions of the society for this session, and that the Secretary be instructed to forward an official copy of the same, at his earliest convenience, to Dr. Humphreys.

Which was adopted.

The chair announced that the special order of the hour was the reading of a paper by Dr. J. L. Thompson, of Indianapolis, on Certain Indispensable Operations of the Eye.

Dr. Thompson appeared and read his paper.

Which, on motion, was referred to the Committee on Publition.

Dr. James F. Hibberd introduced the subject of American quinine, and presented some documents from the House of Representatives, being in the form of a petition for special legislation on the subject; and moved that Mr. Hall, a gentleman present who was connected with the quinine trade, be allowed the privilege of addressing the society briefly on the subject.

Leave being granted, Mr. Hall addressed the society at length upon the subject of American quinine and the foreign article.

On motion, the whole subject was laid upon the table.

On motion of Dr. Charles Knapp, the society adjourned until two o'clock P. M.

Second Day.

AFTERNOON SESSION.

WEDNESDAY, MAY 21, 1879.

The society was called to order at two o'clock P. M., by the President, Dr. Newland.

Dr. J. W. Hervey offered the following resolution:

Resolved, That the papers of the Health Commission, together with the President's address, be printed in pamphlet form, for distribution among the subordinate societies, for their use in educating the public mind up to the importance of the legislation demanded for the protection of the public health.

Which was adopted.

Dr. James R. Beck called for the report of the Committee on Legislation.

Dr. Hibberd appeared and submitted a report.

After some discussion, Dr. Beck moved to refer the report of the committee to the Committee on Publication, with instructions to publish it as read.

Dr. I. C. Walker moved to lay the motion on the table.

Which was adopted.

Dr. William Commons moved that Dr. E. D. King, of Galena, be requested to continue his investigations on the subject of Placenta Previa, which motion prevailed.

Dr. S. W. Edwins, of Frankton, offered the following resolution:

Resolved, That Dr. W. Hobbs be instructed to inquire into and prepare a paper on the recent legislation on the subject of medical expert witnesses, the same to be incorporated in the proceedings of this society.

Dr. Ritter moved to lay the resolution on the table.

It was so ordered.

Dr. F. J. VanVorhis offered the following resolution:

Resolved, That the Committee on Medical Legislation be discharged and that it is the sense of this society that no effort to secure legislation to regulate the practice of medicine should be made until a law establishing a board of health is secured.

Which was laid on the table.

Dr. G. N. Fitch, chairman of the Committee on Ethics, submitted a report recommending that the charges preferred against Dr. G. S. Evans, of Noblesville, and a member of the Randolph County Medical Society, for proclaiming himself a homœopath, be referred to that society for its action.

The report was adopted.

Dr. F. J. VanVorhis offered the following:

Resolved, That county societies be instructed to report to this society the names selected for delegates to the American Medical Association, who shall be given credentials by the Secretary of this society, and that the American Medical Association be requested to honor no other credentials for the state.

On motion, it was laid on the table.

Dr. R. E. Haughton submitted the following resolution, which the chair announced must lie over until the next annual meeting, under the rules:

Resolved, That we so change article two, section three, of the constitution that all members may vote upon business of the society.

The Finance Committee submitted the following report, which was adopted:

REPORT.

Gentlemen of the Indiana State Medical Society:

We, the undersigned, members of the Finance Committee, beg leave to report that we have examined the Treasurer's report and vouchers, and find them to be correct.

We recommend that the Secretary's salary be continued at one hundred dollars per year.

James W. F. Gerrish,
Chairman.

The following resolution was offered by Dr. F. J. VanVorhis:

Resolved, That this society respectfully recommend to the American Medical Association that as soon as practicable that body be organized on a delegate basis.

Which was adopted.

Drs. J. D. Gatch, J. F. Hibberd and William Spencer were appointed as delegates to the Ohio State Medical Society.

Dr. W. Ransom, of Union City, was appointed delegate to the Kentucky State Medical Society.

Dr. F. J. VanVorhis moved that the Secretary draw his warrant for the rent and expenses of this hall.

Which was adopted.

Dr. H. D. Wood, of Angola, was appointed delegate from this society to the Michigan State Medical Society.

The President, Dr. Benjamin Newland, was appointed a delegate from this society to the Illinois State Medical Society.

Dr. F. J. VanVorhis moved that the thanks of the society be tendered to the presiding Vice-President, the Secretary, Assistant Secretary and Treasurer, for the able and efficient manner in which they have discharged the duties of their respective offices.

Which was adopted.

Dr. F. W. Beard moved a vote of thanks to the chairman of the Committee on Arrangements, for his arduous and successful labors.

Which was adopted.

On motion, the society then adjourned till ten o'clock A. M. on the third Tuesday in May, 1880.

CONSTITUTION AND BY-LAWS

OF THE

INDIANA STATE MEDICAL SOCIETY.

ARTICLE I.

Title.

The name and title of this society shall be THE INDIANA STATE MEDICAL SOCIETY.

ARTICLE II.

Object.

The object of this society shall be to provide an organization through which the regular physicians of the state may be united in one great professional fraternity for the purpose of giving frequent and emphatic expression to the views and aims of the medical profession; to supply more efficient means than have hitherto been available for cultivating and advancing medical knowledge; for elevating the standard of medical education; for promoting the usefulness, honor and interests of the medical profession; for exciting and encouraging emulation and concert of action among its members; for facilitating and fostering friendly intercourse between those engaged in it; for enlightening and directing public opinion in regard to the duties, responsibilities and requirements of medical men; and for the promotion of all measures adapted to the relief of the suffering, and to improve the health and protect the lives of the community.

ARTICLE III.

Members.

SECTION 1. The members of this society shall consist of delegates from the various county medical societies of this state, organized in accordance with the provisions of this constitution, who shall serve one year, or until others are elected to succeed them.

SEC. 2. All members in good standing in the auxiliary county societies shall be members of this society in all its rights and privileges, except that none but delegate members shall transact the legislative business of the session.

ARTICLE IV.

County Societies.

SECTION 1. Any incorporated county medical society whose constitution embraces the objects of this constitution and the code of ethics of the American Medical Association shall, upon application, become auxiliary to the state society, and shall be entitled to one delegate for every five members, and one for every additional fraction of more than half this number.

SEC. 2. The names of the members of such county societies, with their post-office addresses, shall be certified by their respective secretaries, and forwarded to the Secretary of the state society, who shall enroll them in a book kept for that purpose; and each member shall be entitled to a copy of all the publications of this society upon the payment of its assessments.

ARTICLE V.

Officers.

SECTION 1. The officers of this society shall be a President, Vice-President, Secretary, Assistant Secretary, Treasurer and Librarian.

SEC. 2. Each officer shall be elected by a vote of a majority of all the delegates present, and shall serve one year, or until another is elected to succeed him.

ARTICLE VI.

Duties of Officers.

SECTION I. The President shall preside over the meetings, preserve order, call meetings when in his judgment the interest of the profession may require it, and perform such other duties as custom and parliamentary usage may require.

SEC. 2. The Vice-President shall assist the President in the performance of his duties, and, in his absence, preside over the meetings.

SEC. 3. The Secretary shall keep correct minutes of the proceedings of the society, and, when approved, fairly transcribe them in a book kept for that purpose. He shall have charge of all books and papers belonging to the society, excepting such as may properly belong to the Treasurer and

Librarian, receive all moneys due the society, and turn them over to the Treasurer, keeping an account of the same; perform all other duties which the usage of corporate or organized bodies may require, and serve as a member of the Committee on Publication.

Sec. 4. The Assistant Secretary shall assist the Secretary in the performance of the duties of his office.

Sec. 5. The Treasurer shall receive all moneys due the society, and pay all bills approved by the Finance Committee and countersigned by the President, keeping a correct account, and making a full detailed report of the same to the annual meeting of the society, and serve as a member of the Committee on Publication.

Sec. 6. The Librarian shall have charge of all the books, manuscripts (not specially belonging to the Secretary and Treasurer), instruments, specimens, preparations, and other scientific property belonging to the society, keeping a complete catalogue of the same, and report the condition of his department to the annual meetings of the society.

Sec. 7. The officers shall deliver all records, books, papers, funds and other property belonging to their several offices, to their successors, when they shall enter upon the discharge of their respective duties.

ARTICLE VII.

Standing Committees.

At each annual meeting the President shall appoint the following standing committees, each to consist of five members, and to serve until their successors are appointed and enter upon the discharge of their duties, viz: A Committee on Arrangements, a Committee on Credentials, a Committee on Finance, a Committee on Ethics, and a Committee on Publication.

ARTICLE VIII.

Duties of Standing Committees.

Section 1. The Committee on Arrangements shall, if no sufficient reasons prevent, be mainly composed of members at the place where the next annual meeting is to be held, and provide suitable rooms and accommodations for the meeting, and in all matters not otherwise provided for, superintend and protect the general interest of the society.

Sec. 2. The Committee on Credentials shall examine and report upon the validity of the credentials of the delegates from the county societies.

Sec. 3. The Committee on Finance shall superintend the monetary affairs of the society, inspect and audit all bills and the accounts of the

Treasurer, and recommend the assessment of such *pro rata* tax upon its members as may be required to defray the current and incidental expenses of the society.

Sec. 4. The Committee on Ethics shall examine and report, for the action of the society while in attendance upon its meetings, all cases of appeals from the county societies and complaints against members for non-professional conduct.

Sec. 5. The Committee on Publication, of which the Secretary and Treasurer shall be members, shall have charge of preparing for the press, and of publishing and distributing such of the proceedings, transactions and memoirs of the society as may be ordered for publication. It shall supervise and edit all papers presented to the society and ordered to be published, and report its doings to each annual meeting.

Sec. 6. The standing committees shall keep regular minutes of their proceedings, and furnish an authenticated copy thereof, to be deposited with the Librarian.

ARTICLE IX.

Vacancies.

All vacancies in offices, occurring in the interim of the meetings, shall be filled by appointment of the President.

ARTICLE X.

Quorum.

Section 1. Two-thirds of all the delegates shall constitute a quorum competent to alter or amend the constitution.

Sec. 2. One-half of the delegates reported to the Secretary at any meeting shall constitute a quorum to transact any business, except to alter or amend the constitution.

ARTICLE XI.

Powers and Duties.

Section 1. The society shall have full power, and it shall be a part of its duties, to adopt such measures as may be deemed most efficient for mutual improvement, and for exciting a spirit of emulation among the members of the profession; for facilitating the dissemination of useful knowledge; for promoting friendly intercourse among its members; for the advancement of medical science, and for securing the objects set forth in article two of the constitution.

SEC. 2. It shall have power to censure or expel any member convicted of violating its provisions, or who may be guilty of any act which may be considered derogatory to the honor of the medical profession; to hear and decide appeals coming from auxiliary societies, and enforce the observance of the code of ethics.

SEC. 3. It shall have power to raise money of its members by a tax which shall not exceed three dollars annually upon each member.

SEC. 4. The society shall hold at least one meeting annually, and more if deemed necessary for the promotion of its interests.

SEC. 5. It shall adopt a seal as the insignia of its corporate authority.

SEC. 6. The time and place of each succeeding meeting shall be determined by a vote of the society.

ARTICLE XII.

Funds.

The funds of the society shall be applied exclusively to the promotion of its objects, as set forth in article two of this constitution.

ARTICLE XIII.

Code of Ethics.

The society adopts, as a part of its regulations, the code of ethics of the American Medical Association.

ARTICLE XIV.

Amendments.

Every proposition for altering and amending the constitution shall be made in writing, and if such alteration or amendment receive the unanimous vote of all the delegates present, it shall be adopted; but if objection be made, it shall lay over until the next annual meeting, when, if it receive two-thirds of the quorum for amending the constitution, it shall be adopted.

ARTICLE XV.

Seal.

The seal of the Indiana State Medical Society shall consist of a circular disc two inches exterior diameter, with an ornamental border or margin. Within this outer margin shall be, in Roman letters: "Indiana State

Medical Society. Organized MDCCCXLIX." Within this another circle with the motto in Latin, Roman letters: "Physiologica medicina cautionis et curæ morborum vera scientia est." The center is occupied by figures of Esculapius with staff and scroll, Hygeia casting away the serpent, surrounded on base and sides by a wreath of leaves; to the rear and right of the figure of Esculapius an owl is perched.

The following is an impression of said seal:

BY-LAWS.

Order of Business.

SECTION 1.

1. The President shall call the meeting to order.
2. The Secretary shall call the roll of delegates.
3. The chair shall appoint the Committee on Credentials, which shall report as soon as convenient.
4. Report of Committee on Arrangements.
5. Any business requiring early consideration may, by permisson, be introduced.
6. Reading such parts of the minutes of last meeting as may be necessary for the information of the society, such parts of said minutes to be selected in advance by the Secretary.
7. Report of the Secretary.
8. Report of the Treasurer.
9. Report of the Librarian.
10. Report of Committee on Publication.
11. President's address, if for the exclusive hearing of the society; otherwise, the fixing of the time for hearing said address.
12. Chair to appoint Committee on Ethics, which shall report as soon as convenient.
13. Chair to appoint Committee on Finance, to report as soon as convenient.
14. Reading of papers that have been forwarded by county medical societies, and such as have been prepared by special appointments.
15. Election of officers.
16. Introduction of new business.
17. Selection of time and place for next annual meeting.
18. Chair to appoint Committee of Arrangements.
19. Chair to appoint Committee of Publication.
20. Miscellaneous business.
21. Adjournment.

Law of Order.

SEC. 2. The deliberations of this society shall be governed by parliamentary usage, as contained in Roberts' Rules of Order, unless otherwise determined by a vote of the society.

Report of Proceedings.

SEC. 3. The Secretary shall employ a short-hand reporter at an expense not exceeding ten dollars per day, to report to him the proceedings of the society, and such report, when revised by him, he shall submit to the publishing committee for preparation for publication in the Transactions.

Concerning Members.

SEC. 4. The names of all members in good standing, and of all honorary members, shall be published annually in the Transactions.

SEC. 5. Every county society, at its regular meeting next preceding each annual meeting of this society, shall make a full and correct catalogue of its members in good standing at that time, and transmit the same at once to the Secretary of this society. If the name of a member is omitted from this catalogue that was contained in the last preceding catalogue, the county society must explain the omission by stating whether the member whose name is omitted is dead, has withdrawn, has been expelled, suspended, or whatever is the fact. And no one not a member in good standing in his county society can be a member of this society.

Appeals.

SEC. 6. Any member of a county society who has been expelled, or otherwise brought under discipline and condemned, shall have the right of appeal to this society.

Assessments.

SEC. 7. All assessments of money made by this society shall be *per capita* on all the members of all the county societies, and each county society shall collect the assessment on its members and forward the same to the Secretary of this society within the time named, and any county society that fails to comply with this requirement shall be held to be in contempt, and none of its members shall be allowed to participate in the business of this society until such county society shall have purged itself of the contempt.

SEC. 8. The annual assessment on each member of the county societies for the use of this society shall be one dollar, which shall be forwarded to the Secretary of this society with the annual catalogue of members, as provided in section five hereof.

Delegates.

Sec. 9. The delegates to this society shall be appointed by the county societies at the time the county societies are required to make their annual catalogue of members, and the names of the delegates shall be forwarded to the Secretary of this society as soon as they are appointed.

Scientific Business.

Sec. 10. The scientific communications to this society shall consist of such papers as the county societies may order to be presented here, and the report of such special committees as may be appointed to write on selected subjects, and voluntary papers.

Sec. 11. The Committee of Arrangements shall examine all the papers submitted to them under the provisions of section ten, and determine the order in which they shall be presented to the society. The Committee of Arrangements shall have printed a programme of business for the use of members at each annual meeting.

Auxiliary Societies.

Sec. 12. Any county society desiring to become auxiliary to this society may file a certificate of its compliance with the conditions of article four of the constitution, and the Secretary of this society shall be the judge of the sufficiency of such certificate until the next meeting of this society.

Publication Committee.

Sec. 13 The Committee on Publication shall construe section five of article eight, of the constitution, to authorize them to altar, curtail, or reject any and all papers referred to them that do not belong to the business proceedings of the society; and any paper referred to them which they deem meritorious, but not suitable for publication in the Transactions, they may, in their discretion, return to its author and authorize him to offer it to a medical journal for publication, with the announcement that it has been read before the Indiana State Medical Society.

LIST OF MEMBERS

OF THE

INDIANA STATE MEDICAL SOCIETY.

ALLEN COUNTY.

Officers.

William H. Brooks	President.
Joseph R. Beck	Secretary.
Thomas J. Dills	Treasurer.

Censors.

James S. Gregg. Christian B. Stemen. Isaac M. Rosenthal.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Anderson, Samuel	Fort Wayne		1878
Ayres, Henry P	Fort Wayne		1874
Beck, Joseph R	Fort Wayne		1874
Brooks, William H	Fort Wayne		1874
Buchman, Alpheus P	Fort Wayne		1876
Dills, Thomas J	Fort Wayne		1874
Dinnen, James M	Fort Wayne		1879
Ferguson, Wm. S	Fort Wayne	Withdrawn	1874
Graves, Carlton	Zanesville	Withdrawn	1878
Gregg, James S	Fort Wayne		1874
Josse, John M	Fort Wayne		1874
Mayer, Carl F	Fort Wayne		1874
McCullough, Thomas P	Fort Wayne		1874
Proegler, Carl	Fort Wayne		1879
Rosenthal, Isaac M	Fort Wayne		1875
Stemen, Christian B	Fort Wayne		1878

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Sweringen, Hiram V	Fort Wayne		1878
VanBuskirk, Aaron E	Fort Wayne		1878
Whery, William P	Fort Wayne	Withdrawn	1875
Wood, Hugh D	Angola	Steuben county	1876
Yuill, William R	Zanesville		1877

BENTON COUNTY.

Officers.

J. S. Mavity.....President.
A. W. Wells.....Secretary.
J. A. Gray.....Treasurer.

Censors.

J. K. Thompson.   J. Kolb.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Barnes, J. W	Oxford		1874
Beard, J. M. G	Ambia		1875
Carnahan, J. L	Fowler	Withdrawn	1876
Gray, A. J	Otterbein		1875
Hardesty, ——	Boswell		1879
Kolb, J	Oxford		1874
Killin, J	Adeylotte		1875
Mavity, J. S	Fowler		1876
Kidney, J. M	Adeylotte		1878
Moore, A. V		Withdrawn	1875
Purdy, A. J		Suspended	1876
Rodman, J. M		Suspended	1877
Scott, J. A		Suspended	1876
Thompson, J. K	Otterbein		1874
Wells, A. W	Oxford		1874
Whitcomb, J. H	Boswell		

BLACKFORD COUNTY.

Officers.

H. H. Bennett.....President.
L. C. Landon.....Vice-President.
D. T. Showalter.....Secretary.
C. R. Mason.....Treasurer.

Censors.

C. Q. Shull. H. C. Davisson. W. C. Ransom.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Bennett, H. H	Montpelier		1869
Davisson, H. C	Hartford City		1868
Drayer, P	Hartford City		1866
Jackson, L. M	Priam		1878
Landon, L. C	Priam		1875
Mason, C. R	Hartford City		1869
Mason, Samuel	Pennville	Jay county	1872
Ransom, Wm. C	Hartford City		1875
Showalter, D. T	Montpelier		1877
Shull, C. Q	Montpelier		1866
Wilt, W. W	Montpelier		1872

BOONE COUNTY.

Officers.

John F. Sims	President.
H. H. Bonnell	Vice-President.
A. G. Porter	Secretary.
Wm. H. Shulse	Treasurer.

Censors.

Allen Nickey. N. Mendenhall. D. C. Scull.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Alford, J. S	Zionsville		1879
Boyd, J M	Thorntown		1873
Bennington, A. M	Lebanon		1876
Bonnell, T. A	Lebanon		1876
Bonnell, M. H	Lebanon		1877
Davis, D. B	Thorntown		1875
Duzan, G. N	Zionsville		1877
Hardy, J. S	Zionsville		1877
Hamilton, Jas. A	Cason		1877
Heady, Jas. H	Jamestown		1878
Hilligos, E. W. S	Millidgeville		1878
Lane, Thomas H	Lebanon		1873
Lane, Milton	Whitestown		1878

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Mendenhall, N	Thorntown		1873
Nickey, Allen	Elizaville		1877
Porter, A. G	Lebanon		1873
Porter, John R	Lebanon		1873
Parr, Wm. P.	Lebanon		1875
Porter, Wm. D	Lebanon		1877
Parker, James	Colfax		1876
Rose, M. H	Thorntown		1873
Rodman, S. W	Zionsville		1876
Shulse, Wm. H	Lebanon		1873
Sims, John F	Elizaville		1873
Smith, C. H	Lebanon		1875
Steelsmith, J. M	Elizaville		1877
Scull, D. C.	Lebanon		1879
Tharpe, Levi	Colfax		1877
Williamson, R. A	Lebanon		1873
Woodey, E. S	Thorntown		1875
Walker, D. R	Reese's Mills		1878

CARROLL COUNTY.

Officers.

Charles Angell, sr	President.
L. Snyder	Vice-President.
W. F. Sharrer	Secretary.
W. Smith	Treasurer.

Censors.

J. T. Richardson. S. T. Noland. J. E. Sterrett.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Angell, Charles, sr	Pittsburg		
Beck, E. W. H	Delphi		
Loop, W. M	Deer Creek		
Noland, S. T	Delphi		
Powell, John W	Rockfield		
Richardson, J. T	Delphi		
Snyder, L	Camden		
Sterrett, J. E	Burrows		
Smith, W	Delphi		
Sharrer, W. F	Rockfield		

CASS COUNTY.

Officers.

J. M. Justice	President.
N. W. Cady	Vice-President.
J. Z. Powell	Secretary.
R. Faber	Treasurer.

Censors.

G. N. Fitch. A. Coleman. J. Herman.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Adrain, J. A	Logansport		1873
Bell, W. H	Logansport		1873
Busjahn, F. A	Logansport		1878
Cady, N. W	Logansport		1877
Coleman, A	Logansport		1873
Dale, F. C	U. S. Navy	Dropped	1876
Faber, R	Logansport		1873
Fitch, G. N	Logansport		1875
Gemmill, H. C	Galveston		1874
Herman, J	Logansport		1874
Justice, J. M	Logansport		1873
Powell, J. Z	Logansport		1874
Stevens, B. C	Logansport		1873
Strode, A. B	Onward		1874

CLARK COUNTY.

Officers.

C. R. McBride	President.
W. H. Sheets	Vice-President.
R. E. Curran	Secretary.
T. A. Graham	Treasurer.

Censors.

N. Field. W. N. McCoy. F. A. Seymour.

Members.

NAMES.	RESIDENCE.	REMARKS	ADMITTED
Beckwith, L. W	Jeffersonville		1877
Curran, R. E	Jeffersonville		1877
Fouts, W. D	Jeffersonville		1877

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Field, N	Jeffersonville		1877
Graham, T. A	Jeffersonville		1877
Hay, A. J	Charleston	Suspended	1878
McBride, C. R	Jeffersonville		1877
McClure, D	Jeffersonville		1877
McClure, C. B	Jeffersonville		1877
McCoy, W. N	Jeffersonville		1877
Oldham, J. E	Charleston		1877
Seymour, F. A	Jeffersonville		1877
Sheets, W. H	Jeffersonville		1877
Taggart, S. C,	Charleston		1878
Wisner, W. E	Henryville		1878

DAVIESS COUNTY.

Officers.

G. G. Barton	President.
Henry Gers	Secretary.
C. W. McDaniel	Treasurer.

Censors.

J. A. Scudder. J. L. Moore. F. A. Anderson.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Anderson, Samuel	Washington	Deceased	1873
Anderson, F. A	Washington		1873
Anderson, W. B	Edwardsport		1877
Barton, G. G	Washington		1873
Clark, J. W	Glendale		1873
Carter, D. R	Epsom		1873
DuKate, J. S	Wheatland	Suspended	1873
Gers, Henry	Washington	Withdrawn	1876
Jones, J. A	Washington		1873
Lemmon, W. W	Washington		1873
McDaniel, C. W	Washington		1876
Millman, J. H	Washington		1876
Moore, J. L	Washington		1876
Nellis, Ozias	Washington	Withdrawn	1873
Parks, James F	Washington	Suspended	1873
Scudder, J. A	Washington		1873
Taylor, Harvey	Raglesville		1873
Wells, C. T	Washington	Deceased	1873
Willeford, George W	Glendale		1876

DEARBORN COUNTY.

Officers.

S. B. Robbins	President.
J. P. Green and A. B. Haines	Vice-Presidents.
W. C. Henry	Secretary.
R. C. Bond	Treasurer.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Bond, E. P	Lawrenceburg		1867
Bond, R. C	Aurora		1867
Bowers, A. J	Moore's Hill		1867
Craig, T. E	Manchester		1867
Crisler, R. H	Bulletsville, Ky		1876
Daughters, A. P	Moore's Hill	Suspended	1870
Davis, J. R	Morris		1877
Dunn, W. H	Wilmington		1878
Diller, J. M	Cleves, Ohio		1878
Elfers, J	Guyansville		1878
Freeman, William	Hartford		1875
Fermier, P	Weisburg		1872
Freeland, J. P	Manchester		1878
Gatch, J. D	Lawrenceburg		1872
Grant, J. M	Burlington, Ky	Suspended	1876
Green, J. P	Lawrenceburg		1871
Grier, L. H	Brookville	Suspended	1877
Hackleman, P. O	Bright		1878
Haines, A. B	Aurora		1867
Harding, M. H., sr	Lawrenceburg		1844
Harding, M. H., jr	Lawrenceburg	Deceased	1878
Harryman, S. E	Lawrenceburg		1870
Harryman, A. B	Aurora		1873
Henry, W. C	Aurora		1872
Hughes, J	Cleves, Ohio		1878
Hughes, R. M	Cleves, Ohio		1878
Hughes, W. C	Cleves, Ohio		1878
Heaton, C	Moore's Hill		1878
Hutchinson, W. C	Elizabethtown, Ohio		1878
Kyle, T. M	Manchester		1869
Lamb, James	Aurora		1867
Lamb, L. K	Rising Sun	Suspended	1877
Mattison, J. A	Rabbit Hash, Ky	Suspended	1878
Miller, R. H	Friendship	Suspended	1876
Miller, C. B	Lawrenceburg		1867

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Rectanus, F.	Aurora		1867
Robbins, S. B.	Lawrenceburg		1867
Sale, F. H.	Dillsborough		1867
Sale, J. H.	Dillsborough		1867
Smith, T. C.	Aurora		1878
Stevenson G. A.	Rising Sun	Suspended	1878
Stewart, J. B.	Wilmington	Dismissed	1872
Sutton, George	Aurora		1844
Sutton, W. E.	Aurora	Deceased	1875
Swales, W. H., sr.	Logan		1878
Swales, W. H., jr.	Logan		1878
Spalding, John	Guyansville		1878
Terrill, W. H.	Petersburg, Ky		1867
Terrill, J. C.	Hebron, Ky		1876
Vincent, H. C.	Guilford		1867
Vincent, E. B.	Sunman		1876
Walter, C. G.	Lawrenceburg		1867
Williams, H. T.	Rising Sun	Suspended	1878
Whitehead, W. E.	Morris		1879

DECATUR COUNTY.

Officers.

William Bracken	President.
John L. Wooden	Vice-President.
W. H. Wooden	Secretary.
E. B. Swem	Treasurer.

Censors.

John H. Alexander. Thomas Johnson.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Alexander, John H	Clifty		1877
Bobbitt, John H.	Greensburg		1877
Bracken, William	Greensburg		1877
Cain, C.	Clarksburg		1878
Carr, James S.	Adams	Suspended	1877
Covert, C. A.	Greensburg	Withdrawn	1877
Crawford, Geo. S.	Clifty		1877
Dowden, A. W.	New Point		1878
Johnson, Thomas	Clarksburg		1878
Reeves, U. G.	Clifty		1877

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Ross, D. J	Hartsville	Removed	1878
Schofield, J. V	Harris City		1879
Scobey, D. L	Greensburg	Withdrawn	1878
Swem, E. B	Greensburg		1877
Webb, W. H	Adams		1877
Wooden, J. L	Greensburg		1877
Wooden, W. H	Greensburg		1879
Wright, S. V	Greensburg	Withdrawn	1877

DELAWARE COUNTY.

Officers.

John Horn	President.
F. M. Davis	Vice-President.
G. D. Leech	Secretary.
W. J. Boyden	Treasurer.

Censors.

G. W. H. Kemper. T. J. Bowls. J. Dillon.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Anderson, O. F	New Corner		1879
Armitage, D. R	Muncie		1878
Black, N. W	Selma		1878
Bowls, T. J	Muncie		1878
Boyden, W. J	Muncie		1878
Bradbury, A. B	Muncie		1879
Davis, F. M	Wheeling		1878
Dillon, J	Daleville		1878
Green, G. R	Boyerton		1879
Horn, John	Yorktown		1878
Horn, W. N	Yorktown		1879
Jump, S. V	New Burlington		1879
Kemper, G. W. H	Muncie		1878
Leech, G. D	Muncie		1878
Murray, A. L	Granville		1878
Muncy, O	New Corner		1879
Marshal, R	McCowan Station	Removed	1878
Reasoner, O. I	Shidler Station		1879
Summers, J. B	Muncie	Removed	1878
Skiff, C	Selma		1879
Trowbridge, D. L	McCowan Station	Suspended	1878
Winton, R	Muncie		1879

DUBOIS COUNTY.

Officers.

Charles Knapp	President.
W. M. DeMott	Secretary.
A. E. Glezen	Treasurer.

Censors.

C. W. Swartz. W. R. McMahan. T. Wertz.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Buckner, J. P	Huntingburg		1878
Cluthe, Will	Celestine	Suspended	1877
DeMott, W. M	Haysville		1874
Glezen, A. E	Ireland		1874
Harris, J	St. Anthony		1878
Hill, E. F	Portersville		1875
Johnson, T. J	Huntingburg	Suspended	1874
Kempf, J. E	Ferdinand		1878
Kempf, M	Ferdinand		1874
Knapp, Charles	Ferdinand		1874
Kelso, Z. C	Ireland		1876
Maslowsky, F	Mariah Hill	Suspended	1878
McMahan, W. R	Huntingburg		1874
Osborn, W. R	Jasper		1875
Parr, G. L	Ireland		1875
Rust, Fred	Holland		1874
Swartz, C. W	Huntingburg		1874
Stork, C. W	Holland		1878
Welman, R. M	Jasper		1874
Williams, G. P	Huntingburg		1874
Wertz, T	Jasper		1874

ELKHART COUNTY.

Officers.

J. S. Dodge	President.
R. J. Haggarty	Vice-President.
George G. Greiner	Secretary.
R. Q. Haggarty	Treasurer.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Dodge, J. Shaw	Bristol		1878
Greiner, Geo. G	Vistula		1878
Haggarty, R. J	Elkhart		1878
Haggarty, R. Q	Elkhart		1878
Julien, J. K	Locke		1878
Montgomery, H. T	Wakarusa		1878
Putt, F. L	Middlebury		1878

FAYETTE COUNTY.

Officers.

S. W. Vance	President.
Wm. J. Pepper	Vice-President.
Joshua Chitwood	Secretary.
V. H. Gregg	Treasurer.

Censors.

G. R. Chitwood. Geo. A. Sigler. S. N. Hamilton.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Chitwood, Geo. R	Connersville		1879
Chitwood, Joshua	Connersville		1879
Chitwood, John Eberle	Connersville		1879
Day, B. F	Connersville		1879
Gregg, V. H	Connersville		1879
Hamilton, S. N	Everton		1879
Pepper, Wm. J	Connersville		1879
Sigler, Geo. A	Brownsville		1879
Smith, J. A	Lyons		1879
Vance, S. W	Connersville		1879

FLOYD COUNTY.

Officers.

John Sloan	President.
W. A. Clapp	Vice-President.
E. P. Easley	Secretary.
E. W. King	Treasurer.

Censors.

S. J. Alexander.	George H. Cannon.	C. N. Nutt.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Alexander, S. J	New Albany		1878
Bowman, Charles	New Albany		1878
Cannon, G. H	New Albany		1878
Clapp, W. A	New Albany		1878
Davis, R. A	New Albany		1878
Easley, E. P	New Albany		1878
Henry, J. C	New Albany		1878
King, E. W	Galena		1878
Neat, A	New Albany		1878
Nutt, C. N	New Albany		1878
Sloan, John	New Albany		1878
Stewart, J. L	New Albany		1878
Swartzel, J. A	Vincennes	Knox county	1879

FOUNTAIN COUNTY.

Officers.

Wesley Armstrong	President.
G. C. Hays	Secretary.
G. S. Jones	Treasurer.

Censors.

W. C. Cole.	C. D. Watson.	J. W. Mock.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Adkins, Jehu	Hillsboro	Deceased	1876
Armstrong, Wesley	Hillsboro		1876
Armstrong, L. P		Removed	1876
Colvert, William	Stone Bluff		1876
Cole, W. C	Attica		1876
Fine, E. M	Steam Corner		1876
Hays, G. C	Hillsboro		1876
Howard, G. W		Removed	1876
Johnson, C. S	Harveysburg		1876
Jones, C. V	Covington		1876

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Jones, G. S	Covington		1876
Kellenberger, E. K		Removed	1877
Leech, T. F		Removed	1876
Lyon, L. D	Attica		1876
McNeil, S	Steam Corner		1876
Mock, J. W	Covington		1878
Petro, B. L	Covington		1876
Petitt, Marshall	Veedersburg		1879
Quinn, J. W	Hillsboro		1876
Riffle, J. S	Newtown		1876
Richardson, A. G	Stone Bluff		1876
Rupert, A. M	Attica		1878
Spining, J. N	Covington		1878
Wells, J. T		Suspended	1876
Watson, C. D	Hillsboro		1876
Wood, J. A		Removed	1876

FULTON COUNTY.

Officers.

A. H. Robbins	President.
Vernon Gould	Secretary.
J. C. Spohn	Treasurer.

Censors.

J. A. Sutton. C. Hector. William Hill.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Bracy, E. B	Rochester		1879
Brown, A	Rochester		1879
Cuple, A. B	Allen	Miami county	1879
Gould, Vernon	Rochester		1879
Hill, William	Rochester		1879
Howell, J. Q	Kewana	Fulton county	1879
Robbins, A. H	Rochester		1879
Spohn, J. C	Rochester		1879
Sutton, J. A	Rochester		1879
Waite, O. P	Fulton	Fulton county	1879
Ward, A. A	Rochester		1879

GIBSON COUNTY.

Officers.

W. G. Kidd...President.
W. G. Hopkins...Vice-President.
F. H. Maxam..Secretary.
W. W. Blair...Treasurer.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Blair, W. W.	Princeton		1874
Gudgell, J. F.	Hazleton		1877
Howard, E. J.	Hazleton		1874
Kidd, W. G.	Princeton		1874
Munford, S. E.	Princeton		1874
Maxam, F. H.	Princeton		1877
Malone, J. A.	Princeton		1874
Moore, Robert	Summerville		1874
Patten, J. C.	Francisco		1874
Shoptaugh, S. H.	Princeton		1874
West, V. T.	Princeton		1874
Woodruff, A. C.	Owensville		1874

GRANT COUNTY.

Officers.

Daniel Palmer..President.
Samuel C. Weddington..................................Secretary.
Abner D. Kimball...Treasurer.

Censors.

Alpheus Henley. Constantine Lomax. Marshall T. Shively.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Bates, A. J.	Upland	Grant county	1871
Barnes, W. C.	Mier		1875
Charles, H.	Carthage	Rush county	1865
Clouser, N. D.	Hartford	Blackford county	1852
Conner, J. C.	Jalapa		1872
Corey, L.	Van Buren		1862
Corey, L. J.	Van Buren		1875
Daniels, G. W.	Sweetser		1877
Egbert, Geo.	Sweetser		1857

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Flynn, Wm	Marion		1876
Goode, Jonas	Warren	Huntington county	1860
Hamilton, A. A	Hoboken	Huntington county	1872
Henley, Alpheus	Fairmount		1866
Hess, L. P	Marion		1866
Hall, John W	Sweetser		1876
Horne, Samuel S	Jonesboro		1869
Hupp, Samuel	Warren	Huntington county	1877
Ijams, T. F	North Grove	Miami county	1877
Jackson, L. M	Trenton	Blackford county	1868
Kimball, A. D	Xenia	Miami county	1857
Kimball, T. C	Xenia	Miami county	1868
Lacy, J. D	Arcana		1877
Littler, J. M	Parker	Randolph county	1875
Lomax, Wm	Marion	Charter Member	1848
Lomax, Constantine	Marion	Charter Member	1848
Lyons, W. B	Huntington	Huntington county	1856
McKinstry, J. F	Jonesboro		1875
Mauring, N. H	Rigdon		1876
Meek, John A	Jonesboro		1850
Mendenhall, O. A	Xenia	Miami county	1877
Moore, Chas. V	Fairmount		1878
McKinney, G. W	Jonesboro		1879
Perry, John W	Alexandria	Madison county	1870
Palmer, Daniel	Warren	Huntington county	1853
Pugh, J. T	Santa Fe	Miami county	1874
Pugh, Mahlon	Upland		1876
Reasoner, H. D	New Cumberland		1866
Riggs, C. E	Rigdon		1866
Scrambling, W. H	Slash		1872
Shively, Jas. S	Marion	Charter Member	1848
Shively, M. T	Marion		1874
Sproul, John S	Warren	Huntington county	1872
Seal, I. N	Hackleman		1878
Weddington, S. C	Jonesboro		1871
Wilcotts, L. E		Deceased	1874
Williams, L	Marion		185

GREENE COUNTY.

Officers.

M. Beaty	President.
G. G. Laughead	Secretary.
S. C. Cravens	Treasurer.

Censors.

J. N. Conley. J. Kutch. B. A. Rose.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Beaty, M.	Owensburg		1878
Brouillette, P. L.	Worthington		1878
Conley, J. N.	Bloomfield		1879
Cravens, S. C.	Bloomfield		1878
Gastineau, H.	Worthington		1879
Gray, J. W.	Bloomfield		1878
Hanna, J. W.	Linton		1879
Hilburn, E. W.	Newberry		1878
Kutch, John	Bloomfield		1879
Laughead, G. G.	Scotland		1879
Littlejohn, D. N.	Koleen		1879
Lowder, H. R.	Bloomfield		1879
Norvell, H. V.	Bloomfield		1879
Rose, B. A.	Linton		1879
Spencer, W. B.	Switz City		1878
Williams, N. W.	Owensburg		1878

HAMILTON COUNTY.

Officers.

W. H. Cyrus	President.
H. W. Clark	Vice-President.
M. C. Haworth	Secretary.
P. P. Whitesell	Treasurer.

Censors.

A. R. Tucker. J. M. Gray. A. D. Booth.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Booth, A. D.	Noblesville		1874
Benson, J. L.	Westfield		1873
Clark, H. W.	Noblesville		1873
Cyrus, W. H.	New Britton		1873
Davenport, H. E.	Sheridan		1873
Dove, S. C.	Westfield	Suspended	1873
Gray, J. M.	Noblesville		1873
Graham, W. B.	Noblesville		1873
Haworth, M. C.	Noblesville		1877

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Heath, J. P.	Fisher's Station		1877
Hershy, K. C.	Mattsville		1878
Loehr, E. C.	Noblesville		1873
McShane, J. T.	Carmel		1873
Moore, Henry	Sheridan		1873
Parr, J. N.	Jolliet		1873
Piatt, W. C.	Strawtown		1877
Rooker, J. I.	Noblesville		1873
Stout, H. H.	Cicero		1873
Tucker, A. R.	Cicero		1873
Whitesell, P. P.	Clarksville		1873
Warford, F. M.	Cicero		1873

HANCOCK COUNTY.

Officers.

S. A. Troy	President.
J. O. Espy	Vice-President.
E. I. Judkins	Sec'y and Treas.

Censors.

S. M. Martin. J. G. Stewart. George Tague.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Adams, M. M.	Greenfield	Suspended	1874
Bogart, H. J.	Charlottsville	Withdrawn	1874
Carter, J. J.	Eden	Deceased	1875
Duncan, Hiram	Fortville	Withdrawn	1874
Ely, James M.	Palestine	Suspended	1876
Ewbank, G. C.	Philadelphia	Suspended	1874
Espy, J. O.	Fountaintown		1877
Greenleaf, H. A.	Philadelphia	Suspended	1877
Howard, N. P., sr.	Greenfield		1874
Howard, N. P., jr.	Greenfield		1879
Hess, M. M.	Cleveland	Suspended	1874
Judkins, E. I.	Greenfield		1874
Jones, J. M.	Fortville		1877
Kirkhoff, C. H.	Palestine	Suspended	1876
Kearns, W. E.	Cleveland	Suspended	1876
King, W. R.	Carrolton		1877
Loder, C. C.	Warrington	Suspended	1876
Martin, S. M.	Greenfield		1874
Marsh, John L.	Warrington	Expelled	1876

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Pierson, Wm. M	Greenfield	Suspended	1876
Stewart, J. G	Fortville		1874
Sparks, J. B	Charlottsville	Suspended	1874
Saunders, T. K	Fortville	Suspended	1874
Tague, George	Greenfield		1875
Troy, Samuel A	Milliner's Corner		1874
Vawter, L. A	Greenfield	Suspended	1876
Wrenick, G. T	Charlottsville	Suspended	1874
Yancy, S. T	Fortville		1874

HENDRICKS COUNTY.

Officers.

T. F. Dryden	President.
James H. Brill	Vice-President.
J. A. Osborne	Secretary.
W. J. Hoadley	Treasurer.

Censors.

M. G. Parker. F. C. Ferguson. F. W. Smith.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Bartholomew, B	Danville		1876
Brill, J. H	Pittsboro		1876
Barker, J	Brownsburg		1876
Dryden, T. J	Clayton		1876
Ferguson, F. C	Brownsburg		1876
Green, J. N	Stilesville		1876
Heavenridge, A	Stilesville		1876
Hoadley, W. J	Danville		1876
Kennedy, L. H	Danville		1876
Moore, R. C	Belleville		1876
Osborne, J. A	Danville		1876
Orear, J. H	Lizton		1876
Parker, M. G	Amo		1877
Smith, F. W	Plainfield		1876
Summers, H. C	Amo		1877
Talbott, R. C	Pittsboro		1876
Lawson, L	Danville		1879

HENRY COUNTY.

Officers.

E. T. Mendenhall.....President.
John Rea.....Sec'y and Treas.

Censors.

G. W. Zimmerman. W. A. Boor. George N. Rea.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Bartlett, C. G.	Dunreith		1879
Burke, G. W.	Newcastle		1875
Boor, W. F.	Newcastle		1875
Boor, W. A.	Newcastle		1875
Bailey, G. D.	Spiceland		1875
Benedict, H.	Springport		1875
Ballard, A. B.		Removed	1875
Cothrane, James	Spiceland		1876
Craighead, R. D.	Dunreith	Suspended	1877
Carter, N. P.	Blountsville	Suspended	1877
Ferris. S.	Newcastle		1875
Gronendyke, F. W.	Newcastle		1877
Hobbs, Wilson	Knightstown		1876
Hess, L. W.	Cadiz		1875
Hunt, John	Spiceland	Suspended	1877
Lambert, S. Harvey	Ogden	Suspended	1877
Mendenhall, I.	Newcastle		1875
Mendenhall, E. T.	Milleville		1877
Minesinger, H. M.	Sulphur Springs	Deceased	1877
Resoner, Wm. M.	Sulphur Springs		1875
Rea, John	Newcastle		1875
Rea, George N.	Newcastle		1878
Zimmerman, G. W.	Cadiz		1877

HOWARD COUNTY.

Officers.

E. A. Armstrong.....President.
J. V. Hoss.....Vice-President.
J. McLean Moulder.....Sec'y and Treas.

Censors.

William Scott. W. K. Mavity. R. Q. Wilson

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Armstrong, E. A.	Kokomo		1864
Cole, H. C.	Kokomo		1864
Dayhuff, A. F.	Kokomo		1854
Hoss, J. V.	Kokomo		1867
Johnson, I. C.	Kokomo		1864
Kern, Lewis	Alto		1864
Kirk, C. W.		Removed	1875
Kern, Theodore	Oakford		1878
McTurnan, J. M.	Rigdon	Grant county	1873
Moulder, J. McLean	Kokomo		1875
Mavity, W. K.	Kokomo		1866
Miller, L. C.	Alto		1867
Martin, I. W.	Ervin		1865
Rayburn, I. W.		Removed	1878
Ross, J. H.	Kokomo		1874
Scott, Wm.	Kokomo		1864
Scott, Jas. T.	Greentown		1864
Shivley, J. D.	New London		1864
Smith, I. F.	Jerome		1878
Wilson, R. Q.	Kokomo		1866

JACKSON COUNTY.

Officers.

Wm. C. A. Bain	President.
M. L. Boas	1st Vice-President.
Thomas S. Galbraith	2d Vice-President.
Joseph A. Stilwell	Secretary.
Samuel H. Charlton	Treasurer.

Censors.

George O. Barnes. George Q. Orvis. George W. May.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Bain, Wm. C. A.	Brownstown		1876
Barnes, George O.	Courtland		1877
Boas, M. L.	Medora		1877
Charlton, Samuel H.	Seymour		1876
Coryell, Samuel	Crothersville		1879
Cummings, D. J.	Houston		1876

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Davis, Joseph	Reddington		1877
Galbraith, T. S	Seymour		1876
Gerrish, James W. F	Seymour		1876
May, George W	Mooney		1876
Milligan, Thomas F	Brownstown		1877
Orvis, George Q	Seymour		1877
Reed, E. P	Ewing		1876
Stage, Lewis I	Vallonia		1876
Stilwell, Joseph A	Brownstown		1876
Shields, J. T	Seymour		1877
Tinch, E. T	Freetown		1876
Warner, Wm. H	Crothersville		1876
Wells, James C	Mooney		1876
Wilson, Marshall V	Medora		1876

JEFFERSON COUNTY.

Officers.

Joseph G. Rogers	President.
W. D. Hutchings	Vice-President.
J. H. Matthews	Sec'y and Treas.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Brandt, W. E	Hanover	Withdrawn	1874
Collins, Wm. A	Madison		1874
Cornett, W. T. S	Madison		1874
Ely, James R	Madison		1874
Hutchings, W. D	Madison		1874
Marquis, Wm	Wirt		1874
Matthews, J. H	Madison		1874
Rogers, J. G	Indianapolis	Marion county	1874
Richardson, W. H	Vernon		1874
Sanderson, Thos	Kent		1874
Tevis, R. M	Brooksburg		1874
Wright, C. H	North Madison		1874

KNOX COUNTY.

Officers.

A. J. Haughten	President.
F. W. Beard	Secretary.
Alfred Patton	Treasurer.

Censors.

J. R. Mantle. R. B. Jessup. Royce Davis.
J. N. Merritt. W. O. Barnett.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Anderson, W. B.	Edwardsport		1879
Beard, F. W.	Vincennes		1875
Bever, J. C.	Vincennes		1875
Barnett, W. O.	Lovely Dale		1877
Bauer, Modest	Vincennes		1875
Davis, Royce	Decker's Station		1878
Freeland, J. T.	Freelandsville		1877
Fairhurst, O'Connell	Vincennes		1875
Harrison, S. L.	Vincennes		1876
Haughten, A. J.	Oaktown		1875
Harris, W. B.	Vincennes		1875
Harris, F. M.	Vincennes		1879
Jessup, R. B.	Vincennes		1878
Keith, B. F.	Edwardsport		1877
Merritt, J. N.	Oaktown		1875
Mantle, J. R.	Vincennes		1875
Martin, W. T.	Lovely Dale		1876
Patton, Alfred	Vincennes		1875
Pugh, J. W.	Oaktown		1875
Reel, Emanuel	Bicknell		1877
Smith, H. M.	Vincennes		1875
Wise, W. H.	Oaktown		1875
Witherspoon, M.	Bruceville		1875

KOSCIUSKO COUNTY.

Officers.

C. W. Burket	President.
I. J. Becknell	Vice-President.
I. B. Webber	Secretary.
S. C. Gray	Treasurer.

Censors.

J. M. Bash. E. P. Gilpin. J. H. Davisson.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Bash, J. M.	Warsaw		
Becknell, I. J.	Milford		
Bolen, M. J.	Milford		
Burket, C. W.	Warsaw		
Burket, B.	Leesburg		
Davenport, T.	Warsaw		
Davisson, J. H.	Warsaw		
Gilpin, E. P.	Milford		
Gray, S. C.	Warsaw		
Matson, G. W.	Sevastopol	Removed	
Makemson, E. H.	Pierceton		
Pearman, F. M.	Palestine		
Peck, C. F.	Leesburg		
Seymour, W. P.	Warsaw		
Ward, U. J.	Silver Lake		
Webber, I. B.	Warsaw		
White, Frank H.	Baltimore, Md.		

LAGRANGE COUNTY.

Officers.

John Dancer	President.
A. M. Spaulding	1st Vice-President.
William Hughes	2d Vice-President.
John L. Short	Secretary.
E. G. White	Treasurer.

Censors.

J. P. Niman. George H. Dayton. W. H. Short.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Casebeer, H. M.	LaGrange		1878
Dayton, George H.	Lima		1877
Dancer, John	South Milford		1877
Hughes, William	Lima		1877
Jones, A. W.	Lima		1878
Niman, J. P.	LaGrange		1877
Robinson, S. R.	South Milford		1879
Rawles, J. W.	Mongo		1877
Short, J. L.	LaGrange		1877

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Short, William H	LaGrange		1877
Spaulding, A. M	Brushy Prairie		1877
White, E. G	LaGrange		1877
Whetzel, C. M	Mongo		1878

LAPORTE COUNTY.

Officers.

N. S. Darling	President.
J. H. Wm. Meyer	Secretary.
C. R. Warren	Treasurer.

Censors.

Landon C. Rose. George L. Andrew. L. S. Keen.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Andrew, Geo. L	LaPorte		1875
Darling, N. S	LaPorte		1875
Denke, F. W	LaPorte	Removed	1875
Fravel, Theophilus	Westville		1875
Higday, T	LaPorte	Deceased	1875
Keen, L. S	LaPorte		1875
Miller H. F. C	Hobart	Lake county	1877
Meyer, J. H. Wm	LaPorte		1877
Rogers, E. A	LaPorte		1875
Rose, L. C	LaPorte		1875
Stevenson, A. G	LaPorte		1875
Standiford, A. G	Westville	Suspended	1875
Sherman, Frank R	Michigan City	Removed	1877
Warren, C. R	Otis		1878

LAWRENCE COUNTY.

Officers.

G. W. Burton	President.
Benjamin Newland	Vice-President.
J. Gardner	Secretary.
S. A. Rariden	Treasurer.

Censors.

J. Stillson. A. F. Berry. E. P. Gibson.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Allen, E.	Fayetteville		
Berry, A. F.	Rivervale		
Burton, G. W.	Mitchell		
Burton, John	Georgia		
Crim, L. A.	Tunnelton		
Dixon, H. C.	Tunnelton		
Gardner, J.	Bedford		
Gibson, E. P.	Mitchell		
Judah, W. P.	Guthrie		
Kimberlin, L. A.	Mitchell		
LaForce, H. C.	Heltonsville		
Larkin, J. B.	Mitchell		
McIntire, E. S.	Mitchell		
Newland, Ben	Bedford		
Pearson, J. C.	Mitchell		
Phipps, J. M.	Heltonsville		
Rariden, S. A.	Bedford		
Smith, W. H.	Leesville		
Stillson, J.	Bedford		
Yandell, W.	Huron		
Yost, J. L. W.	Mitchell		

MADISON COUNTY.

Officers.

W. A. Hunt	President.
B. F. Spann	Vice-President.
Horace E. Jones	Secretary.
Wm. Suman	Treasurer.

Censors.

Ward Cook. S. F. Brunt. W. V. McMahan.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Boston, J. G.	Pendleton		1878
Broadbent, Oliver	Anderson		1875
Brownback, O W.	Pendleton		1876
Brunt, S. F.	Summitsville		1875
Burr, C. S.	Anderson		1875
Chittenden, George F.	Anderson		1875
Cook, John W.	Pendleton		1877

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Cook, Ward	Pendleton		1875
Dunham, Volney	Anderson		1878
Edwins, S. W.	Frankton		1875
Free, C.	Funk's Station		1875
Fussell, Lundy	Markleville		1877
Harter, J. H.	Pendleton		1879
Hunt, W. A.	Anderson		1875
Hunt, J. W.	Alexandria		1879
Jones, Horace E.	Anderson		1875
Justice, Wm. A.	Markleville	Withdrawn	1877
Lewis, Walter H.	Huntsville		1875
Loder, C. C.	Fishersburg	Expelled	1878
McMahan, W. V.	Columbus		1875
Morgan, Wm. J.	Purdu		1875
Perry, John W.	Alexandria		1875
Spann, B. F.	Anderson		1875
Stewart, J.	Anderson		1875
Sullivan, John T.	Alexandria		1875
Suman, Wm.	Anderson		1875
Wickersham, N. L.	Anderson		1875

MARION COUNTY.

Officers.

F. S. Newcomer	President.
L. L. Todd	Vice-President.
Allison Maxwell	Secretary.
J. A. Sutcliffe	Treasurer.

Judicial Council.

John Chambers. L. D. Waterman. W. E. Jeffries.
J. M. Kitchen. T. N. Bryan.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Allen, Wesley	West Newton		1878
Atkins, Benj. F.	Indianapolis	Suspended	1878
Baley, W. P.	Southport		1876
Barnes, C. A.	Brightwood		1878
Bigelow, J. K.	Indianapolis		1876
Boynton, C. S.	Indianapolis		1878
Bryan, T. N.	Indianapolis		1875
Bullard, Wm. M.	Indianapolis		1876

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Carter, Wm. J	Mt. Jackson	Removed	1878
Chambers, John	Indianapolis		1875
Cochran, W. A	Indianapolis		1875
Comingor, J. A	Indianapolis		1875
Crist, D. O	Indianapolis		1879
Davis, Samuel	Indianapolis		1877
Davis, W. H	Indianapolis		1875
Eastman, Joseph	Indianapolis		1875
Elder, E. S	Indianapolis		1876
Elstun, W. J	Indianapolis		1875
Featherston, J. R	Indianapolis		1875
Fields, M. H	Indianapolis		1875
Fletcher, W. B	Indianapolis		1875
Graydon, Robert G	Southport	Suspended	1878
Hadley, E	Indianapolis		1875
Harvey, T. B	Indianapolis		1875
Haverfield, M. E. W	Indianapolis		1879
Haughton, R. E	Indianapolis		1876
Hervey, J. W	Indianapolis		1875
Henthorn, Leroy	Indianapolis		1878
Hornaday, W. H	Malott Park		1875
Hussey, J. R	Indianapolis		1879
Jameson, P. H	Indianapolis		1875
Jameson, Henry	Indianapolis		1875
Jeffries, W. E	Indianapolis		1875
Kitchen, J. M	Indianapolis		1878
Lawrence, A. O	Indianapolis	Deceased	1878
Mapes, Smith H	Lawrence		1875
Marsee, J. W	Indianapolis		1878
Maxwell, Allison	Indianapolis		1878
McDonald, W. B	Augusta	Suspended	1875
Mears, Geo. W	Indianapolis	Deceased	1875
Murdock, T. S	Indianapolis		1879
Newcomer, F. S	Indianapolis		1875
Oliver, D. H	Indianapolis		1875
Parvin, Theophilus	Indianapolis		1876
Patterson, A. W	Indianapolis		1878
Pettijohn, John E	Mt. Jackson	Suspended	1875
Renner, J. E	Indianapolis	Deceased	1878
Ritter, C. A	Indianapolis		1878
Stevens, Thad. M	Indianapolis		1875
Stewart, James W.	Indianapolis	Suspended	1877
Sutcliffe, J. A	Indianapolis		1878
Sullivan, O. H	Indianapolis	Suspended	1875

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Thompson, J. L.	Indianapolis		1876
Thompson, W. C.	Indianapolis		1876
Tilford, John H.	Irvington	Removed	1877
Todd, R. N.	Indianapolis		1875
Todd, L. L.	Indianapolis		1875
VanVorhis, F. J.	Indianapolis		1875
Wagner, T. A.	Indianapolis	Suspended	1878
Walker, I. C.	Indianapolis		1875
Wallace, Geo. B.	Indianapolis	Suspended	1877
Wands, William	Indianapolis		1875
Waterman, L. D.	Indianapolis		1875
Waters, John C.	Indianapolis		1879
Wishard, W. H.	Indianapolis		1875
Woodburn, Jas. H.	Indianapolis		1875
Woolen, G. V.	Indianapolis		1875
Wright, C. E.	Indianapolis		1878

MARSHALL COUNTY.

Officers.

S. W. Gould .... President.
J. H. Wilson .... Sec'y and Treas.

Censors.

G. R. Reynolds. Wm. N. Bailey. A. H. Johnson.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Bailey, Wm. N.	Plymouth		1879
Doke, J. T.	Walnut		1878
Eaton, R. B.	Argos		1878
Gould, S. W.	Argos		1878
Johnson, A. H.	Argos		1879
Leland, J. S.	Argos		1878
Loring, C. J.	Walnut		1878
Reynolds, G. R.	Plymouth		1878
Stevens, O. P.	Maxinkuckee		1878
Stevens, Finley	Argos	Withdrawn	1878
Wilson, J. H.	Plymouth		1878

MIAMI COUNTY.

Officers.

L. B. Williams	President.
J. O. Ward	Secretary.
Rollin Pence	Treasurer.

Censors.

W. H. Brenton. C. B. Higgens. E. H. Sutton.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Brenton, W. H	Peru		1872
Bloomfield, E. M	Peru		1872
Frierwood, E. K	Amboy		1872
Graham, B. R	Chili		1874
Higgens, C. B	Peru		1872
Helm, John H	Peru		1872
Irvin, O. C	Bunker Hill		1875
Meek, James A	Bunker Hill		1872
Marsh, S. S	Reserve		1872
McKee, James	Mexico	Suspended	1876
Pence, Rollin	Santa Fe		1879
Robbins, A. H	Rochester		1878
Sutton, E. H	Allen		1878
Wilson, W. T	Bunker Hill		1872
Williams, L. B	Deedsville		1876
Ward, J. O	Peru		1872

MONTGOMERY COUNTY.

Officers.

W. L. May	President.
A. T. Steele	Vice-President.
W. H. Ristine	Secretary.
S. W. Purviance	Treasurer.

Censors.

J. S. McMurray. S. L. Ensminger. E. H. Cowan.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Cowan, E. H	Crawfordsville		1875
Donaldson, J. W	Ladoga		1877
Ensminger, S. L	Crawfordsville		1875
Fitch, A. P	Waynetown		1877
Griffith, T. J	Darlington		1872
Hurt, W. J	Waynetown		1877
Hogsett, J. W	Mace		1873
Hutchings, B. F	New Market		1876
Johnson, W. L	Crawfordsville		1872
Jones, O. H	Mace		1876
Leech, T. F	Crawfordsville		1879
May, W. L	Crawfordsville		1872
McMurray, J. S	Linden		1874
Purviance, S. W	Crawfordsville		1872
Ristine, W. H	Crawfordsville		1878
Steele, A. T	Waveland		1879
VanNuys, J. D	Waveland		1879
Washburne, E. P	Linden		1877

MORGAN COUNTY.

Officers.

H. C Robinson	President.
E. V. Green	Secretary.
C. M. Lindley	Treasurer.

Censors.

E. P. Ritchey. A. W. Reagan. R. C. Griffitt.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Clark, James E	Cape		1879
Douglass, F. M	Martinsville	Removed	1876
Farr, U. H	Paragon		1877
Green, E. V	Martinsville		1876
Griffitt, R. C	Morgantown	Suspended	1876
Holliday, Thos. F	Monrovia	Suspended	1879
Holman, Chas. C	Martinsville		1879
Knight, J. H	Paragon	Suspended	1876
Lindley, C. M	Brooklyn		1876

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
McNabb, P.	Mooresville		1876
Mitchell, G. B.	Mooresville	Deceased	1876
Perce, B. H.	Mooresville		1876
Reagan, A. W.	Mooresville		1876
Reagan, J	Monrovia	Removed	1876
Ritchey, E. P.	Martinsville		1876
Robinson, Cam	Martinsville		1876
Robertson, W. S	Morgantown	Suspended	1876
Rundell, S. N.	Cape		1877
Snoddy, J. M	Mooresville	Suspended	1879
Tilford, S. A.	Martinsville		1879
Willan, R. Day	Trafalgar		1878

ORANGE COUNTY.

Officers.

Charles E. Laughlin	President.
Labin Lindley	Vice-President.
Ulrich H. Hon	Secretary.
Benton J. Hon	Treasurer.

Censors.

E. D. Laughlin. Theo. P. Carter. John A. Ritter.

Members.

NAMES.	RESIDENCE.	REMARKS	ADMITTED
Carter, Theo. P.	Orangeville		1875
Cole, John A.	Newton Stewart	Suspended	1875
Dillard, James	Newton Stewart	Suspended	1875
Hon, Benton J.	Orleans		1875
Hon, Ulrich H.	Paoli		1875
Laughlin, E. D.	Orleans		1875
Laughlin, C. E.	Leipsic		1875
Lingle, Henry	Orleans	Deceased	1876
Lingle, R. W.	Orleans	Suspended	1876
Lindley, Labin	Paoli		1875
Ritter, John A.	Orangeville		1875
Walters, R. D.	Leipsic	Deceased	1876

PARKE COUNTY.

Officers.

H. J. Rice	President.
Ira H. Gillum	Vice-President.
Wm. H. Gillum	Secretary.
A. D. Tomlinson	Treasurer.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Cross, J. F	Rockville		1874
Dare, J. S.	Bloomingdale		1874
DeVerter, G. D	Howard		1876
Darroch, W. P.	Hollandsburg		1878
Farver, G. W	Bellmore	Removed	1876
Gillum, Ira H	Sylvania		1874
Gillum, W. H	Rockville		1874
Goldsberry, J. A	Annapolis		1874
Goldsberry, S. S.	Judson	Withdrawn	1875
Goss, Marion	Bellmore		1874
Hudson, B. F	Montezuma		1874
Harvey, J. W	Mansfield		1878
McCune, G. W	Montezuma	Suspended	1874
Matson, E. A	Rockville	Withdrawn	1874
Mater, J. D	Bridgeton		1874
McKey, R. H. W.	Russel's Mills		1875
Morris, C. C	Rockville		1877
Mull, W. D	Rockville		1879
Partlow, J. W	Bellmore		1879
Rice, H. J	Rockville		1878
Roberds, S. L	Jessup Station		1879
Saunders, J	Judson		1879
Tomlinson, A. D	Bloomingdale		1874
Thomas, W. D	Rockville	Withdrawn	1874
Walden, C. C	Marshall Station		1878
Watkins, S	Judson	Suspended	1875
White, S. S	Judson		1879
Williamson, W. N	Russell's Mills		1878

PIKE COUNTY.

Officers.

J. R. Adams	President.
A. G. Hobbs	Secretary.
A. R. Byers	Treasurer.

Censors.

D. H. Daniels. R. W. Phillips. L. E. Woodward.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Adams, J. R	Petersburg		1875
Agee, C. J	Stendal		1878
Byers, A. R	Petersburg		1875
Bartmass, S. T	Union		1875
DeFarr, David	Pleasantville		1878
Daniels, D. H	Otwell		1875
Hobbs, A. G	Arthur		1878
Hedden, Wm. C	Otwell		1875
Hornbrook, W. P	Union		1879
Leslie, A	Petersburg		1879
Montgomery, G. B	Winslow		1875
Phillips, R. W	Union		1875
Phillips, D. F	Algears		1878
Schenck, H. F	Oatsville		1875
Smith, J. T	Petersburg		1878
Simpson, J. D	Petersburg		1878
Woodard, L. E	Union		1875

POSEY COUNTY.

Officers.

A. W. Spain	President.
Cyreneus Elliott	Vice-President.
S. H. Pearse	Secretary.
E. V. Spencer	Treasurer.

Censors.

Wm. M. Holton. M. S. Blunt. Cyreneus Elliott.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Blunt, M. S.	Mount Vernon		1877
Bitz, L. B.	Blairsville		1877
Bucklin, G. W	New Harmony		1879
Culmer, George F.	New Harmony		1878
Elliott, Cyreneus	Wadesville		1877
Holton, Wm. M.	New Harmony		1877
Hicks, C.	Caborn's Station		1877
Highman, L. W	New Harmony	Deceased	1877
Kelly, F. H.	Stewartsville		1879
Krawsgrits, D.	Wadesville		1879
Murphy, Edward	New Harmony		1877
Montgomery, D. B.	Cynthiana		1878
Moore, R. S.	Mount Vernon		1877
Minick, J. M.	Solitude	Removed	1877
Neal, Daniel	New Harmony		1878
Pearse, S. H	Mount Vernon		1877
Rawlings, S. O.	Mount Vernon		1878
Rutledge, J. C	Poseyville		1878
Spencer, E. V.	Mount Vernon		1877
Spain, A. W.	Poseyville		1877
Schultz, O. T.	Mount Vernon		1877
Weever, J. B.	Mount Vernon		1877
Williams, J. B.	Mount Vernon		1877
Williams, F.	Farmersville		1877
Welborn, G. W	Stewartsville		1878

PULASKI COUNTY.

Officers.

H. E. Patterson	President.
Wm. Kelsey	Vice-President.
W. T. Cleland	Secretary.
A. R. Thompson	Treasurer.

Censors.

D. J. Loring. Geo. W. Thompson. J. N. Foutz.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Cleland, W. T.	Kewanna		1876
Foutz, J. N.	Royal Center		1876
Kelsey, Wm.	Monterey		1876

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Kittinger, H	Winnamac		1876
Loring, D. J	Francesville		1876
Nafe, G. W	Royal Center		1876
Patterson, H. E	Winnamac		1876
Thomas, F	Winnamac		1876
Thomas, James	Royal Center		1876
Thompson, G. W	Winnamac		1876
Thompson, W. H	Winnamac		1876
Thompson, A. R	Kewanna		1876

PUTNAM COUNTY.

Officers.

H. E. Ellis	President.
J. B. Cross	Vice-President.
L. M. Hanna	Secretary.
Samuel Fisher	Treasurer.

Censors.

S. A. Hinton. G. C. Smythe. R. F. Stone.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Allen, H. P	Reelsville		1877
Cross, J. B	Bainbridge		1877
Dunnington, Andrew	Cloverdale		1877
Dunnington, R. C	Bainbridge		1877
Ellis, H. E	Greencastle		1877
Evans, E. B	Greencastle		1877
Fisher, Samuel	Greencastle		1877
Fisher, B. T	Belle Union		1877
Farrow, A. C	Greencastle		1877
Fordice, J. H	Russleville		1879
Hinton, S. A	Reelsville		1877
Hanna, L. M	Greencastle		1877
Hall, J. T	Morton		1878
McNary, C. B	Fillmore		1879
Matson, E. A	Greencastle	Removed	1879
Norwood, J. M	Greencastle	Suspended	1877
Owsley, W. J	New Marysville		1878
Preston, A. G	Greencastle		1877

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Preston, J. L	Greencastle		1877
Smythe, G. C	Greencastle		1877
Stanley, L.	Fincastle	Suspended	1879
Stone, R. F.	Bainbridge		1879
Taylor, C. F.	Greencastle		1878
Zane, T. M	Manhattan		1879

RANDOLPH COUNTY.

Officers.

Wm. Commons	President.
A. H. Good	Vice-President.
J. J. Evans	Secretary.
J. T. Chenoweth	Treasurer.

Censors.

L. N. Davis. W. G. Smith. H. H. Yergan.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Bennett, J. E.	Hill Grove, Ohio		1877
Blair, J. S.	Lynn		1879
Berry, J. S.	Spartinsburg		1879
Beverly, J. E.	Winchester	Suspended	1876
Chenoweth, J. T	Winchester		1876
Chenoweth, N. T.	Windsor,		1876
Commons, Wm.	Union City		1876
Cox, Cyrus	Winchester	Suspended	1876
Davis, R. P.	Red Key		1876
Davis, L. N.	Farmland		1876
Evans, C. S.	Union City		1876
Evans, G. S.	Saratoga	Suspended	1877
Evans, J. J.	Winchester		1876
Ferguson, D.	Union City		1876
Farquhar, A. H.	Ridgeville		1876
Ford, R	Saratoga		1878
Good, A. H.	Bloomingsport		1876
Harrison, H.	Union City		1876
Harrison, R. N.	Winchester		1877
Hamilton, R. W.	Lynn	Suspended	1878
Heiner, John	Arba		1876
Markle, J. E.	Winchester		1876

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Maltbie, R. T.	Farmland	Deceased	1877
Shepherd, G. W.	Red Key	Suspended	1877
Shoemaker, W. J.	Ridgeville	Suspended	1878
Smith, W. G.	Winchester		1876
Yergan, H. H.	Union City		1876

RUSH COUNTY.

Officers.

W. S. Hargrove	President.
S. W. McMahan	Vice-President.
W. H. Smith	Secretary.
John Moffett	Treasurer.
W. A. Pugh	Librarian.

Censors.

J. W. Green. J. J. Inlow. R. W. Sipe.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Arnold, John	Rushville		
Arnold, W. W.	Rushville		
Axline, J. A.	Raleigh		
Bogart, H. J.	Carthage		
Caldwell, Annie	Rushville	Withdrawn	
Derbyshire, Ephraim	New Salem		
Dillon, J. C.	Knightstown		
Ely, J. M.	Palestine		
Graham, A. E.	Richland		
Green, J. W.	Arlington		
Hargrove, W. S.	New Salem		
Inlow, J. E.	Homer		
Inlow, J. J.	Manilla		
McGaughey, John E.	Arlington		
McMahan, S. W.	Rushville		
Moffett, John	Rushville		
Parsons, Charles H.	Rushville		
Pollitt, Francis M.	Milroy	Withdrawn	
Pugh, W. A.	Rushville		
Sexton, M.	Rushville		
Sipe, R. W.	Orange		
Smith, J. F.	Jerome	Removed	

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Smith, W. H.	Rushville		
Spilman, F. J.	Andersonville		
Spurrier, John H.	Rushville		
Thomas, Samuel C.	Milroy		

ST. JOSEPH COUNTY.

Officers.

W. W. Butterworth	President.
D. Dayton and J. R. Brown	Vice-Presidents.
J. Cassidy	Secretary.
B. R. O'Connor	Treasurer.

Censors.

B. R. O'Connor. O. P. Barbour. L. H. Dunning

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Barbour, O. P.	South Bend		1876
Brown, J. R.	Sumption Prairie		1875
Butterworth, W. W.	Mishawaka		1875
Cassidy, John	South Bend		1875
Dayton, Daniel	South Bend		1876
Dunning, L. H.	South Bend		1878
Fletcher, C. A.	South Bend	Removed	1875
Greene, A. B.	Mishawaka	Withdrawn	1875
Ham, Levi J.	South Bend	Expelled	1875
Humphreys, Louis	South Bend		1875
Kettring, J. A.	South Bend		1875
Lanning, S.	North Liberty	Removed	1875
McAllister, E. W.	South Bend	Suspended	1875
O'Connor, B. R.	Mishawaka		1875
Sack, J. C.	South Bend		1875
Varrier, J. A.	North Liberty		1877
Voorhees, G. V.	South Bend	Removed	1875

STARKE COUNTY.

Officers.

M. C. Boner	President.
A. H. Henderson	Vice-President.
J. B. Hoag	Secretary.

Censors.

O. A. Rea. L. D. Glazebrook.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Boner, M. C	Knox		1878
Garner, H	Knox	Withdrawn	
Glazebrook, L. D	San Pierre		1878
Henderson, A. H	Knox		1878
Hoag, J. B	Knox	Suspended	1878
Parker, J. B		Withdrawn	
Perry, Wm	North Judson		1878
Rea, O. A	Knox		1878
Wier, W. H	North Judson		1878

STEUBEN COUNTY.

Officers.

S. H. Fuller……President.
D. W. Fenton……Vice-President.
Sol. A. Wood……Secretary.
T. F. Wood……Treasurer.

Censors.

M. F. Crain. D. B. Griffin. H. D. Wood.

Members.

NAMES.	RESIDENCE.	REMARKS	ADMITTED
Abbott, L	Fremont		1875
Bates, Charles	Nettle Lake, Ohio		1876
Bachman, N. E	Hamilton	Withdrawn	1876
Blue, J. B	Flint		1875
Brown, J. C	Flint		1878
Clarke, H. A	Fort Wayne	Withdrawn	1877
Crain, M. F	Angola		1875
Dart, S. F	Salem Center	Withdrawn	1875
Fenton, D. W	Ray		1876
Fuller, S. H	Pleasant Lake		1877
Goodale, C	Orland	Withdrawn	1878
Griffin, D. B	Angola		1870
McLain, J	Crooked Creek	Withdrawn	1875
Morisson, T. R	Hamilton		1879

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Stough, J. H	Hudson		1879
VanAntwerp, C	Orland	Withdrawn	1876
Wilkinson, J. J	Orland		1874
Wood, H. D	Angola		1863
Wood, T. F	Metz		1865
Wood, Sol. A	Angola		1877
Woodworth, B. S	Fort Wayne	Allen county	1877
Yengling, A. C	Angola	Withdrawn	1877

TIPPECANOE COUNTY.

Officers.

John C. Webster	President.
C. W. Shill	Vice-President.
Wm. S. Walker	Secretary.
S. T. Yount	Treasurer.

Censors.

J. Spaulding. W. W. Vinnedge. G. F. Beasley.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Beasley. G. F	LaFayette		1877
Cady, Wm. F	LaFayette		1877
Hanna. Wm. R	LaFayette		1878
Payne, A. T	Transitville		1879
Ramsdell, C. M	LaFayette		1877
Shill, C. W	Battle Ground		1878
Spaulding, J	Chauncy		1878
Vinnedge, W. W	LaFayette		1877
Walker, Wm. S	LaFayette		1877
Webster, J. C	Romney		1878
Wills, A. A	Stockwell		1878
Wiley, H. W	Purdue College		1877
Yount, S. T	LaFayette		1877

TIPTON COUNTY.

Officers.

M. V. B. Newcomer	President.
J. M. Grove	Vice-President.
H. G. Evans	Secretary.
N. W. Doan	Treasurer.

Censors.

A. J. Barker.	Wm. M. Glass.	J. T. Jessup.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Armfield, J. D	Elwood		1877
Austin, Winsor	Windfall		1876
Bouse, J. A	Goldsmith		1879
Barker, A. J	Tipton		1874
Collins, Geo. M	Tipton		1874
Doan, N. W	New Lancaster		1874
Driver, J. C	Shielville		1874
Evans, H. G	Tipton		1875
Glass, Wm. M	Shielville		1874
Gossett, J. M	Normanda		1877
Grove, J. M	Tipton		1874
Heath, W. N	Sharpsville		1874
Herbaugh, C. A	Shielville		1879
Jessup, J. T	Curtisville		1877
Newcomer, M. V. B	Tipton		1874
Pitzer, A. B	Tipton		1874
Parker, A. P	Kempton		1877
Rubush, D. P	Sharpsville		1875
Spitzmesser, J. L	Windfall		1877
Seward, A. B	Eakin		1875
Vickrey, A. M	Tipton		1874
Vickrey, M. V. B	Tipton		1874
Welchell, T. C	Tetersburg		1878
Zeek, F. S	Windfall		1874

VANDERBURG COUNTY.

Officers.

C. P. Bacon	President.
B. J. Day	Vice-President.
J. W. Compton	Sec'y and Treas.

Censors.

C. E. Lining.	W. A. Wheeler.	W. B. Rose.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Achilles, F. W	Evansville		1878
Bacon, C. P	Evansville		1879
Bray, M. J	Evansville		1879
Carter, E. L	Evansville		1879
Compton, J. W	Evansville		1878
Day, B. J	Evansville		1879
Dow, J. L	Evansville		1879
Irwin, J. W	Evansville		1878
Jones, H. G	Evansville		1879
Kennedy, D. H	Evansville		1879
Lining, C. E	Evansville		1878
Linthecum, E	Evansville		1878
Owen, A. M	Evansville		1879
Pirnat, J	Evansville		1879
Rose, W. B	Evansville		1879
Walker, G. B	Evansville		1879
Wheeler, W. A	Evansville		1878
Wilde, C. A	Evansville		1878

VIGO COUNTY.

Officers.

J. H. Long	President.
H. D. Mann	Vice-President.
S. C. Preston	Secretary.
W. P. Armstrong	Treasurer.

Censors.

L. J. Willien. W. M. Humphrey. C. E. Kuster.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Armstrong, J. B	Terre Haute	Deceased	1874
Armstrong W. P	Terre Haute		1878
Black, R. C	Terre Haute		1879
Bruellitte, P. L	Terre Haute	Withdrawn	1876
Carson, L. E	Prairieton		1878
Crapo, J. R	Terre Haute		1878
Crapo, G. W	Terre Haute		1879
Forcythe, Mary	Terre Haute		1878

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Gerstmeyer, Charles	Terre Haute		1874
Glover, E. E	Prairieton		1878
Hickson, G. W	Riley P. O		1874
Humphrey, W. M	Terre Haute		1878
Insley, W. Q	Terre Haute		1874
Kuster, C. E	Terre Haute		1874
Long, J. H	Terre Haute		1874
Mullen, B. F	Terre Haute	Deceased	1874
Mann, H. D	Terre Haute		1874
Mitchell, J. D	Terre Haute		1874
McLain, Leslie	Terre Haute		1878
Moorhead, T. W	Terre Haute		1878
Preston, S. C	Terre Haute		1874
Purcell, W. M	Terre Haute	Withdrawn	1874
Pinson, A. J	Libertyville		1875
Poindexter, John	Bloomtown		1877
Roberts, W. H	Terre Haute		1874
Read, Ezra	Terre Haute	Deceased	1874
Stevenson, W. M	Terre Haute		1874
Swafford. B. F	Terre Haute		1874
Thompson, J. C	Terre Haute		1874
Thralls, R. P	St. Mary's		1876
VanValza, N. L	Terre Haute	Withdrawn	1877
Watkins, Samuel	Otter Creek		1877
Willien, L. J	Terre Haute		1874
Worrell, J. P	Terre Haute		1874
Weinstien, L. J	Terre Haute		1879
Young, S. J	Terre Haute		1874

WABASH COUNTY.

Officers.

Horace Winter...President.
J. L. Dicken...Secretary.
A. J. Smith...Treasurer.

Censors.

M. O. Lower. Wm. G. Armstrong. L. O'Neal.

Trustees.

A. McD. Thomas. E. F. Donaldson. R. F. Blount.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Adar, H	Somerset		1871
Armstrong, W. G	Lafountain		1855
Brady, T. R	Lincolnville		1871
Bloomer, F. H	Pleasant Grove		1873
Blount, R. F	Wabash		1865
Chineworth, G. P	Mt. Etna		1877
Dicken, J. L	Wabash		1854
Dicken, C. L	Wabash		1879
Donaldson, E. F	Wabash		1865
Ford, J	Wabash		1854
Ford, J. H	Wabash		1872
Grayston, F. S. C	Huntington	Huntington county	1856
Grayston, B. H. B	Huntington	Huntington county	1879
Hale, M. M	Lagro		1871
Holmes, C. H	Wabash		1879
Jones, J. H	Roann		1878
Kautz, J	Dora		1873
Kidd, G. P	Roann		1874
Lower, M. O	Liberty Mills		1876
Mendenhall, W. T	North Manchester		1871
Mitcheal, S. P	Mt. Etna		1877
Minnich, H. R	Treaty Station		1879
Mooney, H. C	Laketon		1876
Moore, P. G	Rich Valley		1871
Murphy, R	Roann		1871
O'Neal, L	Somerset		1859
O'Neal, Oren	Somerset		1879
Peters, E. P	Wabash		1855
Peters, G. P	Wabash		1878
Renner, J. H	Lagro		1872
Shaffer, Philip	Bracken		1879
Smith, A. J	Wabash		1871
Studly, J. W	Lafountain		1878
Thomas, E. B	Lagro		1854
Thomas, A. McD	Lafountain		1855
Thompson, S. G	Wabash		1878
Tremtly, G. D	Bracken		1878
Waddell, C	North Manchester		1875
Winton, H	North Manchester		1873
Williams, O. B	Antioch		1878

WARREN COUNTY.

Officers.

Justin Ross	President.
E. R. Birch	Secretary.
C. H. Huffman	Treasurer.

Censors.

A. M. Porter. S. C. Fenton. O. D. Benson.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Blanchard, J. G	State Line	Removed	1875
Barnes, S	West Lebanon	Removed	1876
Birch, E. R	State Line		1876
Benson, O. D	Williamsport		1879
DeHart, J	Williamsport	Expelled	1875
Fenton, S. C	Pine Village		1876
Huffman, C. H	Rainsville		1876
McMullen, J. W	Pine Village		1876
Moore, A. V	Green Hill		1878
McAdams, A. J	Green Hill		1878
Osborn, C. W	Marshfield		1875
Osborn, S. N	Rainsville		1875
Porter, A. M	State Line		1875
Ross, Justin	Williamsport		1875
White, C. F	State Line	Removed	1876

WARRICK COUNTY.

Officers.

W. Wilson	President.
W. W. Daily	Vice-President.
J. R. Temple	Secretary.
T. B. Jones	Treasurer.

Censors.

C. J. Keegan. D. A. DeForrest. S. L. Tyner.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Barker, W. L	Boonville		1877
Daily, J. M	Rockport		1877
Daily, W. W	Boonville		1877
Daily, T	Boonville	Error last year	1877
DeForrest, D. A	Boonville		1877
Hargan, T. J	Boonville		1877
Howard, T. M	Boonville		1878
Hunt, W. A	Lynnville		1877
Hooker, H. H	Elberfeld		1877
Jones, T. B	Lynnville		1877
Keegan, C. J	Canal		1877
McCoy, T. J	Eby		1877
McCoy, L. H	Lake		1878
McCoy, J. S	Elberfeld		1878
Reavis, Wm. J	Lake		1878
Scales, W. B	Boonville		1877
Smith, T	Canal		1877
Tyner, S. L	Lynnville		1877
Temple, J. R	Yankeetown		1878
Wilson, W	Yankeetown		1877

WAYNE COUNTY.

Officers.

I. F. Sweeny	President.
James F. Hibberd	Vice-President.
J. R. Weist	Secretary.
A. T. Buchanan	Treasurer.

Censors.

S. S. Boyd. E. Hadley. C. A. Blount.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Blount, C. N	Hagerstown		1875
Boyd, S. S	Dublin		1875
Bradbury, A. B	Cambridge City	Removed	1875
Buchanan, A. T	Cambridge City		1875
Bula, R. W	Richmond	Suspended	1878
Dailey, J. J	Milton		1875
Gaus, P. T	West Florence, O.	Suspended	1876

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Hadley, Edwin	Richmond		1876
Hobbs, M. W.	Richmond	Suspended	1875
Hibberd, J. F.	Richmond		1877
Huff, O. N.	Fountain City		1879
Iutzi, Joseph	Richmond		1878
Johnson, L. C.	Fountain City		1879
Johnson, L. R.	Cambridge City	Withdrawn	1875
Kersey, Charles A.	Richmond		1876
Mauk, J. R.	East Germantown		1875
McIntyre, J. H.	Richmond		1877
Pennington, J.	Milton		1875
Rutledge, J. W.	Cambridge City		1875
Summers, J. B.	Milton		1879
Swallow, E.	East Germantown		1875
Sweeney, I. F.	Milton		1875
Taylor, J. E.	Richmond		1878
Tillson, H.	Centerville		1876
Thomas, Mary F.	Richmond		1876
Weist, J. R.	Richmond		1876

WHITE COUNTY.

Officers.

William Spencer	President.
R. M. Delzell	Vice-President.
John Medaris	Secretary.
R. S. Black	Treasurer.

Censors.

A. B. Jones. John Medaris. A. B. Ballon.

Members.

NAMES.	RESIDENCE.	REMARKS.	ADMITTED
Ballon, A. B.			
Black, R. S.	Idaville		
Delzell, R. M.			
Didlake, M. T.	Walcott		
Grant, F. A.	Walcott		
Jones, A. B.			
Maxwell, S. S.	Remington		
Medaris, John	Brookston		
Spencer, Wm.	Monticello		
Wood, J. A.	Monticello		

MAY 22 1922